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**THE SUGAR MARKETS AND THE EVERYTHING
BUT ARMS (EBA) OF THE EUROPEAN UNION**

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FOREWORD

In the beginning of year 2001 the European Union decided to liberalise imports of all products, except arms, from least developed countries (LDC). In doing so, the EU extended free access to all sensitive agricultural products, removing all remaining tariffs. Even the three most sensitive products – rice, sugar and bananas – were included, but will be progressively liberalised over the next four to eight years. This decision came into force on 5 March 2001.

In its early assessment of the impact on the EU agricultural sector, the European Union admits that application of the Everything but Arms (EBA) treaty could lead to serious pressures on EU domestic sugar prices and have substantial effects on the EU agricultural support budget. The major problem, seen from a domestic agricultural policy point of view, is the attraction of the very much higher prices in the EU compared with the world market and the scope for trade diversion through the potential EBA signatory countries from non-signatory countries, such as some non-LDC ACP countries.

Despite the EBA, the EU is under pressure to reform its sugar regime. Following the GATT Uruguay Round Agreement on Agriculture, the EU was bound to reduce border protection and to limit the quantity of supported exports of sugar. The agricultural negotiations under the auspices of the WTO will probably lead to increased pressure to limit the use of export subsidies and to increased market access in general.

In this report the focus is on the facts and questions of the least developed countries (LDC) and especially on the sugar market of the EU. This focus is very actual also because of the Everything but Arms (EBA) treaty made by the European Union there will be an intensive discussion about the future of the EU sugar regime in the year 2003.

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Abstract. Sugar is produced by approximately 135 countries world-wide and consumed in the every country of the world. Only about 25% of the total sugar supply is traded internationally, and much of that is increasingly within regional trade blocs. World sugar market processes are characterised by two features: price volatility and price levels below average costs of production. In March 2001 the European Union extended its existing Generalized System of Preferences (GSP) to grant duty free access to all exports (except arms) from least developed countries, with exception of bananas, rice and sugar. The implementation of the duty reductions in the case of sugar has been delayed until 2006-2009, when duty and quota free access will finally be allowed. This study and the project report is concentrating on the impacts of the Everything but Arms (EBA) trade access for least developed countries on the EU sugar market and on sugar production in Finland. It is generally agreed that, in the long term, the Everything But Arms (EBA) initiative will have a significant impact on the EU sugar regime and the whole sugar market. At present there is still a high level of uncertainty about the upcoming reform of the EU sugar policy. Discussion of the different alternatives will start in 2003. The future of the Finnish sugar industry depends very much on the future of the sugar policy of the EU and Finland. Supports are crucial to Finnish sugar beet producers and local raw material is crucial to the Finnish sugar industry.

Keywords: Everything but arms (EBA), EU sugar regime, least developed countries

Kalle LAAKSONEN – Jaakko PULLI. 2003. EVERYTHING BUT ARMS (EBA) JA EUROOPAN UNIONIN SOKERIMARKKINAT.

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Tiivistelmä: Sokeri on hyvin yleinen perushyödyke, koska sitä tuotetaan yli sadassa maassa ja kulutetaan kaikkialla. Neljännes tuotannosta menee maailmanmarkkinoille. Kansainvälisiä sokerimarkkinoita leimaa hintojen heilahtelu ja jopa tuotantokustannuksia alempi hintataso. Euroopan unioni antoi vuoden 2001 alussa vapaan tuontioikeuden vähiten kehittyneille maille lukuun ottamatta banaania, riisiä ja sokeria, joille määrättiin siirtymäaika ennen vapaaseen tuontiin siirtymistä. Tämä Everything But Arms (EBA) järjestely aiheuttaa kuitenkin kovan paineen EU:n sokerijärjestelmän säilymisen suhteen. Todennäköisesti joudutaan sekä kiintiöitä että sisämarkkinahintoja laskemaan. EU:n sokeripolitiikan uudistamisesta alkaa keskustelu kuluvan vuoden 2003 aikana. Suuremmat muutokset toteutuvat kuitenkin vasta vuoden 2006 jälkeen. Suomen sokerituotannon ja teollisuuden tulevaisuus riippuu täysin EU:n sokeripolitiikan suhteen tehtävistä ratkaisuista. Kotimainen sokerijuurikkaan viljely ei voi jatkua ilman riittävää tukea. Jo merkittävä tuottajahintojen lasku panee tuotannon jatkumisen vaaraan. Kotimainen sokerinjalostus on pääosin riippuvainen sokerijuurikkaan alkutuotannosta.

Avainsanat: Everything but arms (EBA), EU:n sokeripolitiikka, vähiten kehittyneet maat

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INTRODUCTION

In March 2001 the European Union extended its existing Generalized System of Preferences (GSP) to grant duty free access to all exports (except arms) from least developed countries, with exception of three sensitive products: bananas, rice and sugar. Duty free access for these is being phased in and the implementation of the duty reductions in the case of sugar has been delayed until 2006-2009, when duty and quota free access will finally be allowed.

It is generally agreed that, in the long term, the Everything But Arms (EBA) initiative will have a significant impact on the EU sugar regime and the whole sugar market. The impact of granting unlimited access for the LDCs to the EU market will depend on the future EU sugar policy. At present there is still a high level of uncertainty about the upcoming reform of the EU sugar policy. Discussion of the different alternatives will start in 2003.

The focus of this study and report is the impact of the EBA initiative on the EU sugar market, and especially on the sugar market and industry in Finland. Finnish sugar production and marketing policy is determined by the EU sugar regime and generally by the Common Agricultural Policy. The first chapter of this study provides a short overview of the world sugar market. Chapters two and three concentrate on the current EU sugar regime and the preferential trade policy of the EU. Chapters four and five examine the sugar supply situation in the EU and also in the LDCs. Chapter six includes some ideas about the future of the EU sugar regime, while the final chapter provides the main results of this study concerning the sugar market in Finland.

The beginning of the report also includes a Summary Chapter and a short synopsis in Finnish.

TIIVISTELMÄ

Euroopan unionin harjoittama sokeripolitiikka on ollut verrattain itsenäinen osa Euroopan unionin yhteistä maatalouspolitiikkaa (Common Agricultural Policy) aina vuodesta 1968 saakka. Toisin kuin monia muita maatalouspolitiikan osa-alueita, sokeripolitiikkaa on uudistettu vuosien mittaan vain vähän. Olennaisimmat muutokset ovat tulleet talous- ja tullialueen laajentuessa, erityisesti Iso-Britannian liittyessä Euroopan talousalueeseen vuonna 1973. Tässä yhteydessä yhteisön politiikkaan tuli uutena elementtinä sopimukset Afrikan, Karibian ja Tyynen valtameren maiden (AKT-maat) kanssa. Sopimus AKT-maiden kanssa sisälsi ns. tiettyä AKT-maaryhmää koskevan sokeriprotokollan, joka kuuluu myös vuonna 2001 allekirjoitettuun Cotonou-sopimukseen.

Paine Euroopan unionin sokeripolitiikan muuttamiseksi on kasvanut viime vuosina. Euroopan unionin harjoittama maatalouspolitiikka on ollut keskeisen tarkastelun ja usein arvostelunkin kohteena mm. kansainvälisissä kauppaneuvotteluissa, vuosina 1986-94 GATT:in Uruguayn kierroksen aikana ja myös vuonna 2001 alkaneella WTO:n Doha -neuvottelukierroksella. Dohan neuvottelukierroksen on määrä päättyä vuoden 2005 alkuun mennessä.

Kehitysmaiden osuus tuotannossa kasvaa

Sokeri kuluu maataloustuotteisiin tai perushyödykkeisiin, joita kulutetaan ja tuotetaan laajasti sekä kehitysmaissa että teollisuusmaissa. Kehitysmaiden sokerintuotanto perustuu lähes yksinomaan monivuotiseen ruohokasviin, sokeriruokoon. Teollisuusmaiden sokerintuotanto hyödyntää sokerijuurikasta, joka voi kasvaa myös lauhkealla vyöhykkeellä, kun taas sokeriruo'on luontainen kasvualue rajoittuu trooppisiin tai subtrooppisiin vyöhykkeisiin.

Maailman sokerista yhä suurempi osa jalostetaan ruokosokerista. 2000-luvun alussa ruokosokerin osuus on ollut jo kolme neljäsosaa kokonaistuotannosta. Sokerin tuotanto kasvaa keskimäärin parin prosentin luokkaa vuodessa, ja oli vuonna 2001/2002 runsaat 130 miljoonaa tonnia.

Sokeriruo'on osuuden nousun myötä kehitysmaiden osuus kokonaistuotannosta kasvaa vähitellen, vaikka suuria ruokosokerin tuottajia on myös eräissä pitkälle kehittyneissä maissa kuten Australiassa. Nopeinta

sokerintuotannon kasvu on ollut kuitenkin Etelä-Amerikassa, erityisesti Brasiliassa, ja myös eräissä Aasian maissa. Sokeriruokoa kasvatetaan jo yli sadassa kehitysmaassa.

Kehitysmaiden osuus myös kulutuksessa ja tuonnissa on kasvamassa, millä on puolestaan ollut vakauttava vaikutus sokerin kansainvälisiin hintoihin. Kehitysmaiden tuonnin hintajousto on teollisuusmaita suurempi, koska teollisuusmaissa, erityisesti Euroopan unionissa, USA:ssa, Kanadassa ja Japanissa, tuonti- ja vientimarkkinat ovat säädeltyjä, joten kansainväliset hintavaihtelut eivät kovin paljon vaikuta kotimaiseen tarjontaan ja kysyntään.

Hintavaihtelut perinteisesti suuria

Sokerin maailmanmarkkinahinnat ovat viime vuosikymmenien aikana olleet maatalousperäisistä tuotteista vaihtelevimpia; hinta on joskus kymmenkertaistunut vuoden aikana. Viimeisen kymmenen vuoden aikana sokerin kansainvälisten hintojen kehitys on ollut historiallisesti tarkasteltuna huomattavan vakaata. Edelleen on kuitenkin ongelmana, että sokerin tuotanto vaatii huomattavat pääomakustannukset samaan aikaan, kun sato vaihtelee mm. sääolojen vuoksi vuosittain. Näin ollen tarjonta on joustamatonta kysyntään ja hintojen vaihteluun nähden, mikä on omiaan jyrkentämään vuotuisia heilahduksia. Tuotantoa ei keskeytetä, vaikka kustannukset joinakin vuosina ylittäisivät markkinoilta saadun hinnan.

Alle tuotantokustannusten

Hintavaihteluja suurempi ongelma on kuitenkin se, että hyvin monissa maissa sokerin tuotanto- ja jalostuskustannukset kohoavat korkeammaksi kuin vastaava maailmanmarkkinahinta. Tämä johtuu tuotannon ja kaupan säätelystä. Vaikka ulkomaankaupan osuus maailman sokerimarkkinoista on runsas neljännes, tuonnin ja viennin säätely eri maissa aiheuttaa sen, että maiden ja talousalueiden sisämarkkinahinta voi poiketa huomattavasti maailmanmarkkinahinnasta. Euroopan unionissa sokerin sisämarkkinahinta on viime vuosina ollut noin 160 prosenttia korkeampi kuin vastaava maailmanmarkkinahinta. Vastaavanlainen ero on voimassa monissa muissakin maissa, myös lukuisissa kehitysmaissa.

Euroopan unionin sokerituotannon säätelyjärjestelmä

Euroopan unionin sokerimarkkinoiden uudistamisesta käydään keskustelu vuoden 2003 aikana. Merkittävämmät muutokset on odotettavissa kuitenkin vasta vuodesta 2006 alkaen. Tuotantoa ja markkinoita säätelevä järjestelmä todennäköisesti muuttuu monilta osin tämän keskustelun tuloksena. Kuten todettiin, järjestelmä on ollut lähes muuttumaton runsaat kolmekymmentä vuotta.

Euroopan unionin nykyinen sokeripolitiikka perustuu järjestelmään, jossa tuotantoa säädellään kiintiöin, ulkomaankauppaa tuontimaksuin, ja sisäinen hintataso taataan interventiojärjestelmän avulla. Tuotannon osalta on määritelty maakohtaiset A ja B kiintiöt. A kiintiö vastaa periaatteessa kotimaista kulutusta. B kiintiöstä kannetaan tuottajilta maksut, joilla rahoitetaan tarvittava vientituki. C kiintiöstä tai C sokerista puhutaan silloin, kun tuotanto ylittää A ja B kiintiön, ja tämä osa tuotantoa on vietävä maailmanmarkkinoille ilman vientitukea.

Ulkomaankaupan etu(preferenssi)järjestelmät

Euroopan unionissa ulkomaankauppajärjestelmä koostuu monikerroksisesta sopimusjärjestelmästä, missä WTO-pohjaisen tulli- ja tariffijärjestelmän lisäksi noudatetaan monia erityissopimuksia. EU:n sokerimarkkinoilla keskeinen erityisjärjestely koskee aikanaan Afrikan, Karibian ja Tyynen valtameren maiden kanssa solmittua Lome'n sopimusta, jonka osana oli mm. sokeriprotokolla, joka puolestaan takasi tullietuun perustuvan tuontioikeuden eräille AKT-maille. Sokeriprotokolla sisältyy myös näiden maiden kanssa vuonna 2001 allekirjoitettuun Cotonou-sopimukseen ja takaa yhteensä 1,3 miljoonan tonnin tullittoman tuonnin EU-markkinoille. Tuojamaat saavat tuodusta sokerista EU:n sisämarkkinoita vastaavan hinnan. Tämä tuontietu on myönnetty määräämättömäksi ajaksi.

Sokeriprotokollaan sisältyvän tuontiedun lisäksi määrättyistä kehitysmaista tuodaan raakasokeria jalostettavaksi myös ns. erityistuontiedun turvin (special preferential sugar). Tämä on määrältään yhteensä noin 200 000-300 000 tonnia vuodessa. Erityistullietu voidaan kuitenkin yksipuolisesti EU:n päätöksillä ajaa alas.

EBA aloite uhkatekijänä

Paine Euroopan unionin sokeripolitiikan uudistamiseen kasvoi äärimmilleen, kun EU myönsi vähiten kehittyneiden maiden ryhmälle (least developed countries, LDC) tullivapaan ja kiintiöttömän, yksipuolisen tuontiedun vuodesta 2001 alkaen. EBA-aloitteessa (everything but arms) sokeri sai kuitenkin riisin ja banaanin ohella siirtymääjan tariffi- ja kiintiövapauteen siirryttäessä. EU laajentaa välittömästi ja asteittain LDC-maille jo ennen myönnettyä tullivapaata tuontikiintiötä. Tullien yleinen, asteittainen poisto alkaa vuonna 2006 ja vuoden 2009 puolivälistä sokerin tuonti on täysin vapaata LDC-maista.

EBA:n vaikutukset ovat parhaillaan monilla tahoilla laajan analysoinnin ja tutkimuksen kohteena. Kokonaisvaikutukset EU:n maatalouskauppaan ja koko maataloussektoriin voivat olla hyvin suuret, mutta pääosin muutos on hidasta, koska LDC-maiden maatalous- ja elintarvikesektori on hyvin kehittymätöntä ja maat ovat pääsääntöisesti riippuvia maataloustuotteiden ja elintarvikkeiden tuonnista. Lisäksi voimakkain muutosvaihe alkaa sokerin osalta vasta vuonna 2006, jolloin asteittainen tullien alentaminen alkaa.

LDC-maat ovat tällä hetkellä sokerin nettotuojia, mutta eräät vähiten kehittyneistä maista (Sudan, Sambia jne.) vievät jo nyt sokeria. LDC-maiden sokerin tuotanto on viime vuosina ollut keskimäärin 2,6 miljoonaa tonnia vuodessa, mikä on noin kuudesosa EU-alueen kulutuksesta. EBA:n etu ja mahdollisuus LDC-maille muodostuu nykyisillä hintaeroilla siitä, että periaatteessa maat voivat viedä oman tuotantonsa EU-alueelle ja tuoda vastaavan määrän omaan kulutukseen maailmanmarkkinoilla.

Teoreettisesti tarjonta LDC-maista EU-alueelle voi olla maiden omaa tuotantoa suurempikin, koska EBA kuuluu EU:n kehitysmaille myöntämään GSP-tullietujärjestelmään (General System of Preferences). Tullietujärjestelmään kuuluu ns. kumulatiivinen alkuperäsääntö, jonka mahdollistaisi raakasokerin tuonnin esim. ASEAN¹- tai SAARC²-maista johonkin LDC-maahan, tämän tuonnin jalostamisen valkoiseksi sokeriksi ja sen vieminen EBA-edun mukaisesti EU-markkinoille.

Todellista tuontipainetta on vielä kuitenkin vaikea arvioida, koska kumpikin edellä mainittu mahdollisuus edellyttää huomattavia investointeja

¹ ASEAN: Cambodia, Thailand, Laos, Vietnam, Indonesia, Malaysia, Brunei, Singapore, Philippines

² SAARC: Pakistan, India, Bangladesh, Maldives, Sri Lanka, Nepal, Bhutan

tuotantoon, jalostukseen ja ennen kaikkea infrastruktuuriin ko. LDC-maissa eikä mailla itsellään ole tarvittavan mittaluokan investointiresursseja. Kysymys onkin kansainvälisen pääoman ja yritystoiminnan investointihalukkuudesta.

EU:n sokeripolitiikan vaihtoehdot

Huolimatta siitä, että EBA:n aiheuttamaa todellista uhkaa tai muutosvaatimusta on vielä vaikea reaalisesti arvioida – voidaan luultavasti puhua satojen tuhansien, ehkä noin miljoonan sokeritonnin tuontipotentiaalista, varmaa on, että EU joutuu arvioimaan harjoittamansa sokeripolitiikan varsin perinpohjaisesti. Tämä johtuu myös EU:n laajentumisesta itään, mikä tuo uusia, potentiaalisia tuottajamaita, sekä meneillään olevasta Dohan neuvottelukierroksesta, joka tuo uusia rajoituksia vientituen yms. tukimuotojen käyttöön.

EU on valmistautunut keskusteluun sokeripolitiikan uudistamisesta tilaamalla analyyseja vaihtoehtoisten politiikkalinjojen seurauksista. Ensimmäiset analyysit valmistuvat keväällä 2003.

Periaatteessa, jos ei haluta tai ei ole pakko mennä sokeripolitiikan täydelliseen vapauttamiseen, on olemassa kaksi sopeuttamislinjaa, ja niistä erilaisia variaatioita. Sopeuttamista voidaan ajatella joko supistamalla eri maille myönnettyjä tuotantokiintiöitä tai alentamalla sisämarkkinoilla vakautettua tuottajahintaa. Kun erilaisia kombinaatioita näistä vaihtoehtoista harkitaan, näyttää kuitenkin ilmeiseltä, että sopeuttaminen ei ole mahdollista ilman hintatason laskua. Jos ero sisämarkkina- ja maailmanmarkkinahinnan välillä on 2-3 -kertainen, paine tuonnin kasvuun LDC-maista aikaa myöten väistämättä koko ajan voimistuu.

Suomen sokerimarkkinat puristuksessa

Suomessa sokeria on tuotettu 1900-luvun alkupuolelta lähtien. Toisen maailmansodan jälkeen tuotanto laajeni, kun haluttiin nostaa maan sokeriomavaraisuutta. Kotimainen tuotanto onkin viime vuosikymmeninä vastannut noin 75 prosenttisesti kotimaisesta kulutuksesta. Kotimainen sokerintuotanto perustuu sokerijuurikkaaseen, jota tällä hetkellä viljellään runsaalla 30 000 hehtaarilla ja vuotuinen juurikassato on runsaat miljoona tonnia.

Kotimainen sokerintuotanto perustuu tilojen kanssa tehtyihin viljelysopimuksiin. Viljelysopimuksia on kaikkiaan noin 2700 tilalla. Juurikas jalostetaan kahdessa sokeritehtaassa, jotka sijaitsevat Salossa ja Säkylässä. Sopimusten ja tehtaiden sijainnin vuoksi sokerijuurikkaan tuotanto on alueellisesti hyvin keskittynyttä. Varsinais-Suomen, Hämeen ja Satakunnan TE-keskusten alueilla sijaitsee yli 80 prosenttia juurikkaan tuotannosta. Kirkkonummen Kantvikissä sijaitsee sokerinpuhdistamo, missä tuotu raakasokeri jalostetaan valkoiseksi sokeriksi ja pakataan kauppaan menevää sokeri kuluttajapakkauksiin.

Kansantulotilaston mukaan juurikassokerin tuotannon bruttoarvo on vaihdellut viime vuosikymmenellä 50-60 miljoonan euron luokassa. Juurikassokeria viljellään usein vuoroviljelynä kevätvehnän, ohran tai rypsin kanssa. Juurikas on käyttökatteeltaan hyvin kannattava vaihtoehtoihin tuotantosuuntiin verrattuna. Käyttökate voi hehtaarilta olla noin 500 euroa korkeampi kuin esimerkiksi kevätvehnällä. Kun pääomakustannukset ja työmenekki kuitenkin eroavat ja maatalouden tukielementtien vaikutusta ei ole aina helppo laskea, täsmällistä eroa juurikkaan hyväksi on vaikea arvioida. Joka tapauksessa on laskettavissa, että juurikkaan viljelyn lopettamisen aiheuttama maataloustuotannon vuotuinen nettomenetys voisi olla aluksi 15-25 miljoonaa euroa vuodessa, kun sidottujen pääomien kuoletus otetaan huomioon, ja 10-15 miljoonaa euroa pitkällä aikavälillä.

Juurikassokerin viljelyn mahdollinen loppuminen kannattamattomana tarkoittasi myös Säkylän ja Salon sokeritehtaiden sulkemista. Kirkkonummen sokeritehdas jatkaisi todennäköisesti tuontiraakasokerin jalostusta ja valkoisen sokerin pakkaamista kuten tähänkin asti.

EU-politiikan vaihtoehdot

Suomen kotimainen sokerituotanto kuten muukin maataloustuotanto riippuu ratkaisevasti Euroopan unionin harjoittamasta maatalouspolitiikasta. Sokeria koskevasta politiikasta tullaan keskustelemaan vuodesta 2003 alkaen. Keväällä 2003 tulevat julkisuuteen komission toimesta valmistellut vaihtoehdot. Keskeinen kysymys alan kehittymisen ja erityisesti Suomen sokerintuotannon kannalta on, voidaanko tuottajahintojen alentuminen korvata esimerkiksi suoralla tuella kuten usein ennen vai irrotetaanko viljelyn tuki kokonaan tuotannosta.

SUMMARY

Sugar is produced by approximately 135 countries world-wide and consumed in the every country of the world. In most years, over 70 per cent of world sugar production is consumed domestically; only about 25% is traded internationally, and much of that is increasingly within regional trade blocs. A significant share of this trade takes place under bilateral long-term agreements or on preferential terms such as the European Union's (EU) agreement with some ACP countries³. However, the international market for sugar is large compared with many other agricultural commodities.

Sugar production and supply

Sugar is the only major commodity that is a widespread and factory dependent farm crop in both developed and developing countries. Over 70 per cent of the world's production is from cane growing in tropical or subtropical climates, while nearly 30 per cent comes from beet grown in temperate countries. Refined sugar or white sugar is produced from sugarcane or sugar beet.

South America has become the world's leading export-oriented sugar producing area. Sugar output has increased there from 12.7 million tonnes in 1986 to more than 27.6 million tonnes in 1999, with Brazil as a key driver.

Oceania's production is dominated by Australia, presenting another example (with Brazil) of an export-oriented sugar producer.

Table. *Cane and Beet Sugar production, million tonnes (raw value)*

	1960s Average	1970s Average	1980s Average	1990s Average	2001/02
World sugar production	61.6	81.9	101.8	118.4	131.9
Beet sugar production	26.8	32.6	37.9	37.4	32.7
Cane sugar production	34.8	49.3	63.9	81.0	99.2
Cane sugar as % of world total	56.5	60.2	62.8	68.4	75.2

Source: International Sugar Organisation: Key Drivers of the World Sugar Market, May 2002

³ ACP countries = 77 African, Caribbean and Pacific Countries who have signed the Cotonou Agreement with the European Union

The major beet producer, the European Union, accounts for almost 50 per cent of all the production from beet. The USA, where sugar is produced both from beet and cane, is the second largest beet producer.

Raw and white sugar trade

Raw sugar and refined or white sugar are two different products. Both are traded internationally. Beet sugar producing countries export white sugar, while cane sugar producing countries export either raw or white sugar. In recent years, the share of raw sugar in total sugar exports has been about 50 per cent.

Raw sugar is traded for further refinement, but white moves directly into the end-user market. As the majority of sugar is consumed in the form of white sugar, a major factor determining whether a country imports raw or white sugar is its refining capacity relative to domestic sugar production and consumption.

The raw sugar supply market is heavily concentrated and dominated by Brazil and Australia, followed by Cuba and Thailand. Brazil's export growth has been exceptional: sugar exports increased almost 8-fold between 1990 and 1999 with the country's share of the world market rising from 6 to 31 per cent over the same period.

The white sugar market is less concentrated than the raw sugar market. By far the largest exporters of white sugar to the world market over recent years have been the European Union and Brazil, accounting for 32 and 23 per cent of global white sugar exports, respectively, during the period 1995-2000.

Market characteristics

World sugar market processes are characterised by two features: price volatility and price levels below average costs of production.

The volatility of world sugar prices could be due to the nature of supply response to price changes. An increase in sugar production in response to rising sugar prices requires significant investments in processing facilities, and it takes some time until new production capacity becomes available. Once the facilities are in place, they tend to be used at full capacity. Sugar production is relatively unresponsive to price in the short term.

Production costs and market prices

A critical perspective is that the average world costs of production exceed the average world price level. This situation is explained by the fact that many producers benefit from supportive government policy, notably Western Europe's beet sugar sector and producers in the United States, but also high cost cane producers.

Despite the growing globalisation of the world economy, many sugar producers still remain rather isolated from the world market. Sugar regimes in practically all developed countries except Australia create internal markets for producers. According to the analysis of the International Sugar Organisation, by 2001 (after the reductions in import tariffs agreed under the Uruguay Round of the GATT negotiations) the weighted average of import duty still reached 72 per cent for raw sugar and 88 per cent for white sugar.

Sugar policy scheme in the European Union

The sugar regime is a part of the EU's Common Agricultural Policy covering the production and marketing of beet and cane sugar within the Member States. The purpose of the regime is to provide EU producers and consumers, as well as producers in certain ACP and least developed countries, with a stable market for sugar.

The European common market organisation for sugar consists of three elements:

- a) production control (quotas),
- b) price support (internal prices, production levies and refunds), and
- c) trade measures (export refunds, import levies and preferential agreements).

Production and price control

Sugar produced under quota has a highly regulated price structure. Sugar production within the EU is controlled by quotas per country and per industry. There are two types of quota: A quotas (about 12 million tonnes) roughly cover the internal demand of the EU, while B quotas (2.5 million tonnes) equal the amount of sugar that can be exported with the aid of

export refunds. Any quantity of sugar produced in excess of the sum of total A and B quotas is called C sugar. According to EU legislation, C sugar must be sold on the world market without export subsidies.

The EU scheme for sugar is based on a multiple pricing system, providing sugar refineries with a guaranteed price for A- and B-quotas of sugar, imports of sugar being restricted through high import tariffs. Each year the EU Council of Agricultural Ministers fixes an intervention price for white sugar, which is negotiated annually between the EU Commission and producer organisations. From the intervention price the basic and minimum prices for sugar beet and cane are derived.

Each member country is allocated a fixed quota of sugar – as mentioned above – that is non-transferable between countries. From the basic price the production refunds are deducted, resulting in a minimum price for A and B quota sugar.

Following the GATT Uruguay Round the EU has imposed fixed import tariffs on sugar imports. All products covered by the common organisation of the markets in the sugar sector are subject to the rates of import duty listed in the Common Customs Tariff.

Preferential sugar

For the EU sugar market, among the most important agreements has been that covering so-called preferential sugar. This belongs to the agreements concerning economic and political relations between the EU and the African, Caribbean and Pacific countries. Today's relations with the ACP are governed by the ACP-EU Partnership Agreement, signed in Cotonou on 23 June 2000.

According to protocol 8 of the ACP/EC Convention, the EU guarantees to buy annually, for an indefinite period, 1 294 700 tonnes of sugar (white sugar equivalents) from ACP countries. These imports are exempted from import duties. India was subsequently added to this list with a quantity of 10 000 tonnes. This imported sugar is called Preferential Sugar.

The prices to be paid for Preferential Sugar are negotiated annually between the EU and ACP States. In practice, the price for raw cane sugar has always been equivalent to the derived Intervention Price for raw sugar in the UK. Preferential imports provide a guaranteed income to ACP states, the EU being committed to buy at the guaranteed price through the Intervention Agencies in case no other buyer can be found.

The Special Preferential Sugar (SPS) Agreement was signed in June 1995, but unlike the Protocol (Preferential Sugar) it is of fixed duration. The SPS makes up for the extra raw sugar needed to meet EU sugar refiners' needs and largely comes from ACP states.

Everything But Arms (EBA) initiative

On 26 February 2001 the European Union decided to liberalise imports of all products, except arms, from least developed countries (LDC). In doing so, the EU extended free access to all sensitive agricultural products, removing all remaining tariffs. Even the three most sensitive products – rice, sugar and bananas – were included, but will be progressively liberalised over the next four to eight years. This decision came into force on 5 March 2001.

Cumulative rules of origin

The beneficiaries of this liberalisation move are the 49 LDCs already covered by the EU's General System of Preferences (GSP). The concession applies the current GSP rules of origin, which also allow cumulation between the LDCs and ASEAN⁴, SAARC⁵, and the EU, under certain conditions. Regional cumulation means that LDCs can export as their own goods, products that have been imported from and are originating in other members of the same regional organisation.

EBA will force further CAP reform

In its early assessment of the impact on the EU agricultural sector, the European Union's Trade Directorate General admits that application of the EBA could lead to serious pressures on EU domestic prices and have substantial effects on the EU agricultural support budget. The major problem, seen from a domestic agricultural policy point of view, is the attraction of the very much higher prices in the EU compared with the world market and the scope for trade diversion through the potential EBA signatory

⁴ ASEAN: Cambodia, Thailand, Laos, Vietnam, Indonesia, Malaysia, Brunei, Singapore, Philippines

⁵ SAARC: Pakistan, India, Bangladesh, Maldives, Sri Lanka, Nepal, Bhutan

countries from non-signatory countries, such as some non-LDC ACP countries.

Despite the EBA, the EU is under pressure to reform its sugar regime. Following the GATT Uruguay Round Agreement on Agriculture, the EU is bound to reduce border protection and to limit the quantity of supported exports of sugar. In addition, the enlargement of the EU is causing concern with regard to the budgetary consequences of high support for agriculture. The inclusion of Central and Eastern European Countries in the present EU market regime would greatly increase the potentials for surplus production of sugar, and enhance the financial burden of the market regime in the EU.

Sugar production and potential supply in the LDCs

Major producers of sugar cane of the LDCs in 2001 were Bangladesh (6.7 million tonnes), Myanmar (5.9 million), Sudan (5.0 million) and Ethiopia (2.4 million). The total production of sugar (raw) in 2001 was about 2.6 million tonnes, while consumption was about 75% greater. Major sugar (raw) producers in 2001 were Sudan (0.78 million tonnes), Ethiopia (0.30 million), Malawi (0.25 million), Zambia (0.22 million) and Uganda (0.12 million). Altogether, there were 29 sugar producing countries among the LDCs in 2001.

In 2001, raw sugar production by LDCs was only one-sixth of EU's sugar consumption. However, it is most likely that once LDCs discover the huge opportunity that lies behind the EBA initiative they may dramatically increase their raw sugar production within a few years. While they can import their domestically consumed sugar at the world market price, at the same time they can sell their own production to the EU at a higher price. However, in the long term, the impact of unlimited access to the EU market granted for the LDCs starting from 2009 will depend on the shape of the future EU sugar policy. In any case, it can be estimated that there will be over one million tonnes extra sugar import pressure from the LDCs in the medium or long term.

One important issue is the GSP rules of cumulative origin. If refining is considered to add 100 per cent value, LDCs can import raw sugar from ASEAN and SAARC countries to refine and export it to the EU.

In 2001, the total raw sugar production of ASEAN and SAARC countries was 31.5 million tonnes, more than twice the EU's consumption in the same

year. However, there are a number of difficulties that make this scenario very unlikely. One major obstacle is the lack of financing in the least developed countries. For example, infrastructure improvement to build the needed refining facilities and logistic capacities would demand huge investment.

The future of the sugar policy in the European Union

There are several factors that must be taken into account in the longer term in the EU sugar sector, including increased liberalisation vis-a-vis developing countries, enlargement of the EU, and WTO negotiations.

A key issue will be the extent to which LDCs can expand the productive capacity of their sugar sectors in response to the considerable incentives generated by the EBA initiative. While the LDC sugar production potential would be limited, there is movement towards extending EBA liberalisation to all ACPs under the Cotonou agreement, which foresees eventual regional free trade agreements between the EU and the ACPs. The EU opened EPA (Economic Partnership Agreement) trade negotiations with ACP countries at the end of September 2002. The timeframe for EPA negotiations is set out in the Cotonou Agreement. The Cotonou Agreement states that EPAs will enter into force by 1 January 2008. Thus, from 1 June 2009 onwards there could be free trade in sugar with about 86 developing countries. ACPs have the capacity to produce significantly more sugar than LDCs.

Against this backdrop the EU is under pressure to reform its sugar regime. Following the Uruguay Round Agreement on Agriculture (URAA), the EU is required to reduce its border protection and to limit the quantity of subsidised sugar export. In addition, enlargement of the EU will greatly increase the potential for surplus production of sugar internally, and make it difficult to comply with the commitments of the URAA. Finally, the agricultural negotiations under the auspices of the WTO will probably lead to increased pressure to limit the use of export subsidies and to increase market access in general.

Scenarios for sugar regime reform

The EBA agreement, allowing unlimited duty-free access to LDCs from 2009 onwards, makes it very attractive for these countries to export sugar to the

EU at the intervention price. The EU would be forced to reduce the internal support price to limit the increase of imports from these countries. Another alternative in the reduction of the export surplus is the cutting of quotas, for example the elimination of B quotas. However, eliminating exports of B sugar by reducing the sugar quota might have only a limited impact in the short run on the total output of sugar in the EU, as the production of C sugar is being exported at the world market price.⁶

If instead the export of B sugar is eliminated through reductions in the guaranteed prices of sugar beet, this will have a significant effect on the production of sugar in the EU. According to the calculation, a 25 per cent reduction in border protection will reduce the overall production of sugar, consumption will increase, and the production of A and B sugar will no longer cover the European domestic demand.⁷ Production would fall most in high-cost areas, notably in Greece, Finland (-85%) and Italy, where production of sugar beet would more or less cease.

If combined forces from both within the EU (enlargement) and external agreements (WTO; EBA, EPA) require adjustments that are not possible within the current policy framework, then this will force the EU to consider fundamental reform of the sugar regime. This might be the abolition of the quota system and intervention price. This will require compensation via direct payments, in turn putting pressure on the agricultural budget of the EU.

Timeframe of regime reform

The EU's agricultural policy is divided into financial periods. The present financial period extends to 2006, during which there will be no major changes in the sugar policy. The current Medium Term Review of the common agricultural policy by the European Commission does not cover the sugar sector. Nevertheless, in 2003 the Commission will propose a reform of the sugar policy. This report seems likely to propose quite large changes in supports.

With a scenario where decoupling of the support is performed and the intervention price is either substantially reduced or even abolished, and with the increased import of sugar under the EBA treaty from least developed

⁶ Danish Research Institute of Food Economics 2002

⁷ Danish Research Institute of Food Economics: *ibid*, p.2

countries, it will decrease sugar beet production considerably. This decrease will have a strong effect on Finnish sugar beet production, because sugar beet farmers in Finland have the lowest yield per hectare and the annual variation in the yield is one of the greatest in Europe.

Sugar beet production in Finland

There has been continuous beet sugar production in Finland since the beginning of 1920s. After the Second World War quite many new sugar processing factories were founded in Finland. The main aim of Finnish sugar production has been to increase sugar self-sufficiency, which, since the end of the 1970s, has been around 70 percent of the total consumption. The rest of the consumption demand in Finland has been supplied by processing the imported raw sugar to white sugar in the sugar refinery in Kantvik.

After the last sugar regime reform of the EU sugar policy the total quota for Finnish sugar production has been about 146 000 tonnes of beet sugar. This quota means around 1.1 million tonnes of the beet production depending, for example, on the sugar content of beet in a certain year, which varies from year to year.

Sugar beet fields account for 1.6 per cent of Finland's cultivated area. In 2000 there were about 2 700 sugar beet growers in Finland and average beet producing area was 11.5 hectares per farm.

Geographical concentration

Sugar beet production is concentrated in the southern part of Finland. Three main Employment and Economic Development centres, Varsinais-Suomi, Satakunta and Häme, are responsible for approximately 80 per cent of the total harvest area of sugar beet in Finland.

Incomes from sugar production

According to National Account Statistics, the total value of the sugar beet production varied between 50-60 million euros per year in the 1990s. The total income from sugar beet production has been about 1.5 per cent of the total agricultural value produced in Finland. As about 31 000 hectares has

been under the sugar beet production, this means about 1 500- 1900 euros in gross income per hectare.

Sugar beet has been one of the more profitable arable crops in Finland. Gross income per hectare has been higher than that for most cereals or other arable crops. Sugar beet is commonly grown in rotation with wheat, barley or pulses. Compared with wheat production in the sugar producing regions in Finland, it could be roughly estimated that gross income per hectare from sugar production is clearly higher than that from wheat production, taking into account the various agricultural subsidies. According to an initial rough estimate, if sugar production must be replaced by other arable crops because of the sugar policy reform, the annual net income loss from agriculture production in the short term could be around 20-25 million euros. In the long term, the net income loss would be approximately 10-15 million euros per year.

The Finnish sugar industry and its future

At present the Finnish sugar industry is controlled by one company, Sucros, which is owned by Lännen Tehtaat and Danisco. Lännen Tehtaat owns a 20 per cent share, while Danisco owns 80 per cent of Sucros. Sucros has two factories for producing sugar from beet. One of the factories is located in Salo and the other in Säkylä. Sucros Group (Suomen Sokeri) also has refinery, which is located in Kirkkonummi. The Kirkkonummi refinery refines raw sugar imported under the preferential trade agreement to the EU.

This concentration of the sugar industry structure and the increase in the productivity of sugar factories has been the main cause of the decrease in the number of people employed in the sugar industry during the last years. At the beginning of the 1990s the total workforce was over 1 000 people; now this number is under 300.

The future of the Finnish sugar industry depends very much on the future of the sugar policy of the EU and Finland. Supports are crucial to Finnish sugar beet producers and local raw material is crucial to the Finnish sugar industry, especially for factories in Salo and Säkylä. However, the Finnish sugar industry is not completely dependent on sugar beet. Suomen Sokeri already refines all raw sugar that it imports under preferential terms.

1. THE WORLD MARKET FOR SUGAR

Sugar is produced by approximately 135 countries worldwide (FAO Statistics Base 2001) and consumed in the every country of the world. In most years, over 70 per cent of world sugar production is consumed domestically; only about 25% is traded internationally, and much of that is increasingly within regional trade blocs. A significant share of this trade takes place under bilateral long-term agreements or on preferential terms such as the European Union's (EU) agreement with ACP countries. Since only a small proportion of world production is traded freely, small changes in production and government policies tend to have large effects on the world sugar market. As a result, sugar prices have been very unstable on the world market. However, the market for freely traded sugar is large compared with many other agricultural commodities.

Supply balance

The world production of sugar amounted to 126.8 million tonnes in 2001/02 and the top ten producers account for 70 per cent of the total. In the same year, consumption rose to 130.7 million tonnes.

Table 1. *World supply balance and international trade in sugar, raw value**

	1997/98	1998/99	1999/00	2000/01	2001/02
	1000 ton	1000 ton	1000 ton	1000 ton	1000 ton
Production	124 997	130 228	135 641	129 653	126 975
Imports	32 494	34 697	35 110	35 528	33 645
Exports	35 386	36 196	39 557	36 525	34 536
Domestic Cons.	122 918	123 788	126 659	128 787	130 718
Ending stocks	25 463	30 454	34 784	34 658	29 844

* Different statistical sources (USDA, FAO, ISO) have some differences in the bases of statistics

Source: USDA

Sugar is the only major commodity that is a widespread and factory dependent farm crop in both developed and developing countries. Over 70 per cent of the world's production is from cane growing in tropical or subtropical climates, while near 30 per cent comes from beet grown in temperate countries. Refined sugar or white sugar, which is produced from sugarcane and sugar beet, is technically called sucrose. Sucrose, and all other sugars, belong to the group of foods called carbohydrates – they are composed of carbon, hydrogen and oxygen.

Sugarcane is a perennial grass that is produced in tropical and subtropical climate zones. Once the cane is harvested, the sucrose starts breaking down⁸. Thus, sugarcane mills are located close to the cane fields to minimize transport costs and sucrose losses. Mills convert sugarcane into raw sugar, which is shipped to refineries for further processing. Thus, three distinct operations are involved in the production of refined cane sugar. First, there is the production of the sugarcane crop; then there is the processing of the sugarcane at nearby factories, which are called sugar mills; and finally there is the refining of the factory-produced raw cane sugar at distant refineries.

Unlike sugarcane, sugar beet is an annual crop of temperate climate zones. Since sugar beets are bulky and costly to transport, beet processing facilities are located close to the fields. Sugar beets are extracted from the soil and shipped to nearby factories. The process involved in producing sugar is somewhat similar to that employed to produce cane sugar. White beet sugar is, however, produced at the factory rather than at a refinery. In contrast to sugarcane, sugar beets are directly processed into refined sugar. Raw sugar is processed only from sugarcane.

⁸ Koo & Taylor, 2001

Table 2. *Cane and Beet Sugar production, million tonnes (raw value)**

	1960s	1970s	1980s	1990s	2001/02
	Average	Average	Average	Average	
World sugar production	61.6	81.9	101.8	118.4	131.9
Beet sugar production	26.8	32.6	37.9	37.4	32.7
Cane sugar production	34.8	49.3	63.9	81.0	99.2
Cane sugar as % of world total	56.5	60.2	62.8	68.4	75.2

* Different statistical sources (USDA, FAO, ISO) have some differences in the bases of statistics

Source: International Sugar Organisation, 2002

Raw sugar and refined or white sugar are two different products. Both are traded internationally. Beet sugar producing countries export white sugar, while cane sugar producing countries export either raw or white sugar. In recent years, the share of raw sugar in total sugar exports has been about 50 per cent.

Sugar beet and cane producing countries

While global sugar consumption has shown remarkable stability, increasing by about 2 per cent a year, world sugar production is quite volatile around its upward trends. Regional and country supply responses to demand growth over the past decade or more have been very different. In Asia, the growth of production has been rather rapid during the past ten to fifteen years. Production grew by 21.3 million tonnes between 1986 and 2000 to reach 44.0 million tonnes.⁹

South America has become the world's leading export-oriented sugar producing area. Sugar output has increased there from 12.7 million tonnes in 1986 to more than 27.6 million tonnes in 1999, with Brazil as a key driver. In Central America, a major change has been the sharp reduction in sugar production by Cuba in the first half of the 1990s. Mexico is becoming the leading producer, and a gradual rise in Guatemala is also compensating for the severe losses in Cuba since the collapse of the COMECON preferential market for Cuban sugar.¹⁰

⁹ International Sugar Organization, 2002

¹⁰ ISO: *ibid*, p. 38

Oceania's production is dominated by Australia, presenting another example (with Brazil) of an export-oriented sugar producer. Sugar producers in the region are probably the most vulnerable to changes in world market values, as most of the sugar produced is exported.¹¹

In Europe, both East and West, sugar production has decreased considerably since 1986. Much of the fall in sugar production was due to the break-up of the centrally planned economies in Eastern Europe, while in the EU, Turkey and Switzerland production has grown. The future of the sugar sector in the USA and Canada also depends on the level of border protection and production support provided by the governments.¹²

The major beet producer, the European Union, accounts for almost 50 per cent of all the production from beet. The USA, where sugar is produced both from beet and cane, is the second largest beet producer. The other major beet producers are Turkey, the Russian Federation, Ukraine and Poland. In China almost 1.5 million tonnes of the nearly 9 million tonnes total sugar production was from beet.

The final product, sugar, is identical whether processed from beet or cane, yet the raw materials are totally different. Cane processing is often carried out in two stages. First, the cane is put through mills located close to the farms to produce raw sugar. Further processing is carried out either in the country of production or in sugar refineries elsewhere. Sugar produced from beet is manufactured close to the farms where the beet is grown. The raw materials, both cane and beet, are highly perishable and need to be processed quickly to achieve maximum sugar production¹³.

¹¹ ISO: *ibid*, p. 38

¹² ISO: *ibid*, p. 38

¹³ OECD, 1999

Table 3. *Largest producers in 1998, 1000 tonnes, raw value*

Countries	Beet Sugar	Cane Sugar	Beet + Cane Sugar
Brazil		19 168	19 168
EU	17 686	253	17 939
India		14 281	14 281
China	1 460	7 444	8 904
USA	3 926	3 233	7 159
Mexico		5 287	5 287
Australia		5 085	5 085
Thailand		4 143	4 143
Pakistan	25	3 884	3 909
Cuba		3 291	3 291
Others	13 747	24 005	37 752
World total	36 843	90 075	126 918

Source: FAO Statistic Base

Raw sugar trade

Despite the international sugar trade having quite a small share of the supply of sugar on the world market, important exchanges take place between different countries and areas. World sugar trade is expanding, although historically the self-sufficiency goals of many countries meant that imports before the early 1990s were declining as a proportion of world sugar consumption.

A feature of the bulk trade is that sugar can be shipped in raw or white (refined) forms. Raw sugar is traded for further refinement, but white moves directly into the end-user market. As the majority of sugar is consumed in the form of white sugar, a major factor determining whether a country imports raw or white sugar is its refining capacity relative to domestic sugar production and consumption. Countries import raw sugar because there is refining capacity in excess of that required to process its domestic sugar production.

Table 4. *World production and consumption of sugar in 2001/2002*

Area	Production Share		Consumption Share		Balance
	1 000 tonnes	%	1 000 tonnes	%	1 000 tonnes
North America	12 818	10.2	15 247	11.8	-2 429
Caribbean	4 885	3.9	1 396	1.1	3 489
Central America	3 452	2.7	1 469	1.1	1 983
South America	24 901	19.7	15 716	12.1	9 185
European Union	16 614	13.2	14 700	11.3	1 914
Eastern Europe	3 380	2.7	2 200	3.2	-820
Former Soviet Union	4 216	3.3	10 166	7.9	-5 950
North Africa	2 630	2.5	5 020	3.9	-2 390
Sub-Saharan	6 739	5.3	6 381	4.9	358
Middle East	3 275	2.6	7 655	5.9	-4 380
Asia	37 980	30.1	45 738	35.3	-7 758
Australia	4 734	3.8	3 590	2.8	1 144
Total World	126 279	100.0	129 573	100.0	-3 294

Source: USDA Statistics

Some countries are major exporters and, analogously, some others are main importers. Some developing countries, especially in Latin America, have oversupply in the production of sugar (Table 4) and some other developing areas, but particularly a few developed countries, are importers. North America, the countries of the Former Soviet Union, the Middle East and many countries in Asia are major import areas.

The European Union is both an important importer because of sugar protocols and agreements and at the same time one of the major net exporters.

The raw sugar supply market is heavily concentrated and dominated by Brazil and Australia, followed by Cuba and Thailand. These four exporters account for 65% of the raw sugar supply on the world market (Table 5). Brazil's export growth has been exceptional: raw sugar exports increased almost 8-fold between 1990 and 1999 with the country's share of the world market rising from 6 to 31 per cent over the same period.¹⁴

¹⁴ International Sugar Organization, 2002, p. 47

Table 5. *Raw sugar export volumes, 1997-98 (in 1 000 tonnes of raw sugar)*

Country	Raw sugar export		of which: EU pref.	US quota	World market
	1000 ton	%			
Brazil	4 721.3	24		221.1	4 500.2
Australia	4 067.7	21		126.6	3 941.1
Cuba	2 509.3	13			2 509.3
Thailand	1 399.1	7		21.3	1 377.8
South Africa	850.3	4		35.1	815.2
Mexico	793.6	4		25.0	768.6
Guatemala	779.6	4		73.2	706.4
Colombia	380.9	2		36.6	344.3
Nicaragua	199.8	1		32.0	167.8
El Salvador	162.8	1		39.6	123.2
Top-10	15 864.4	82		610.5	15 253.9
Others	3 452.5	18	1 744.1	989.5	718.9
Total	19 316.9	100	1 744.1	1 600.0	15 972.8

Source: NEI, 2000

As mentioned, there are special trade arrangements in the sugar markets of the EU (see Chapter 3). The preferential sugar exports listed in Table 5 are exports from ACP countries under the EU/ACP convention to the EU.

In total, the preferential exports to the EU amount to 1 304 700 tonnes per year. The top-4 exporters of these preferential exports are: Mauritius (491 030.5 tonnes), Fiji (165 348.3), Guyana (159 410.1) and Swaziland (117 844.5). The Special preferential sugar exports (SPS) are established on top of the preferential exports to meet the maximum supply needs of the six EU raw sugar refineries¹⁵.

The main importers of raw sugar are listed in Table 6. The top-10 account for 70% of total raw sugar imports. The EU is the third largest importer with a share of 8.2% of total raw sugar imports, mostly consisting of preferential and special preferential sugar imports. Other big importers are Russia (19.6%), the USA (10.2%), Japan (7.5%) and South Korea (6.4%).

¹⁵ Hazeleger, 2001

Table 6. *Raw sugar import 1997/98, 1 000 tonnes of raw sugar*

Country	From world	Under preferential	Total	
	market 1000 tonnes	1000 tonnes	1000 tonnes	%
Russia	4 152.8		4 152.8	19.6
USA	561.5	1 600.0	2 161.5	10.2
EU		1 744.1	1 744.1	8.2
Japan	1 601.6		1 601.6	7.5
South Korea	1 367.2		1 367.2	6.4
Canada	1 082.0		1 082.0	5.1
Malaysia	974.0		974.0	4.6
Egypt	962.9		962.9	4.5
Morocco	525.9		525.9	2.5
Saudi Arabia	422.9		422.9	2.0
Top-10	11 650.8	3 344.3	14 994.9	70.6
Others	6 232.9		6 232.9	29.4
Total	17 883.7	3 344.3	21 227.8	100.0

Source: NEI

White sugar trade

The white sugar market is less concentrated than the raw sugar market. By far the largest exporters of white sugar to the world market over recent years have been the European Union and Brazil, accounting for 32 and 23 per cent of global white sugar exports, respectively, during the period 1995-2000.¹⁶ The market share of the top-10 exporters is 66%; for raw sugar on the world market this figure is 82%. The same is true for the import side: the market share of the top-10 importers of white sugar is 37%, while for raw sugar this is 70%.

The European Union is by far the largest exporter of white sugar with 30% of world exports, followed by Brazil, Thailand, Pakistan and India. The EU has been a traditional white sugar exporter since the provisions of the EU sugar regime. Exports averaged around 5.2 million tonnes (raw value) during the 1990s. Although some of these exports are unassisted by subsidies, most white sugar is produced under price support arrangements and exported with subsidies.

¹⁶ International Sugar Organization (ISO), 2002a

Table 7. *Top 10 importers of white sugar, 1998-200 average*

Country	Million tonnes
Indonesia	1.121
Algeria	0.833
Nigeria	0.769
Egypt	0.681
India	0.627
Syrian Arab Republic	0.504
Russian Fed.	0.466
Sri Lanka	0.437
Israel	0.411
Iraq	0.379

Source: ISO, 2002a

Brazil's exports have risen strongly since 1990, reflecting its rapid growth in raw sugar production. In 1990 Brazil exported only 0.78 million tonnes, but by 1995 exports of white sugar had reached 4.9 million tonnes.¹⁷

White sugar imports are more diffuse than the import demand for raw sugar. Only a few countries had average annual imports during 1998-2000 of greater than 0.5 million tonnes (Table 7). The top 15 importers accounted for 48 per cent of world imports of white sugar over the 1998-2000 period.¹⁸

Market characteristics

World sugar market processes are characterised by two features: price volatility and price levels below average costs of production.

The volatility of world sugar prices could be due to the nature of supply response to price changes. An increase in sugar production in response to rising sugar prices requires significant investments in processing facilities, and it takes some time until new production capacity becomes available. Once the facilities are in place, they tend to be used at full capacity. Sugar production is relatively unresponsive to price in the short time.

Crucially, world production changes little from year to year in response to world market price movements, prolonging periods of low prices on the world market. Quick adjustments to price signals are hindered by high switch costs involved in moving into alternative crops, especially since sugar

¹⁷ ISO: *ibid.* p. 44

¹⁸ ISO: *ibid.* p. 25

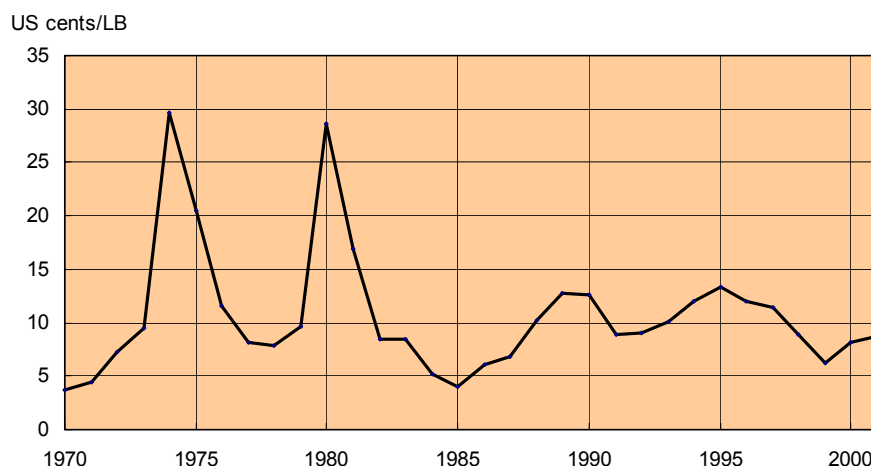


Figure 1. *World market price of sugar 1970-2001*

Source: UNCTAD, Monthly commodity price bulletin

crops are part of a complex and capital intensive infrastructure geared to transport sugar crops into mills.

In the context of supply response, high capital intensity has two major implications. First, sugar cane and beet factories have strong bonds with growers and seek long-term supply commitments with raw material growers. Second, the sugar sector takes a long-term view of market prospects and will attempt to continue to operate through times of low prices by reducing costs and delaying capital expenditure.¹⁹

Cane versus beet sugar production costs

It is commonly recognised that the basic economics of the production of beet sugar are less competitive than those of cane sugar. Thus, production growth in recent years has been concentrated in the lower-cost cane sugar producer countries (Table 2, p. 13).

According to an analysis reported by the USDA, the lowest cost producers of raw cane sugar are Brazil, Colombia, Guatemala, Zambia and Zimbabwe (around 7.4-8.2 US cents/lb). Low cost beet sugar producers are Belgium, Chile, the Netherlands, Turkey, the United Kingdom and the United States, with unit costs of around 19.7-21.7 US cents/lb.

¹⁹ ISO: *ibid*, p. 30

Table 8. *Average cost of production by selected category of producers, US cents/lb, ex mill factory basis*

	1995/96	1996/97	1997/98	1998/99
Cane sugar, raw sugar				
Low-cost producers*	8.10	8.18	7.78	7.58
Cane sugar, white value				
Low-cost producers*	11.75	11.84	11.41	11.19
Beet sugar, white				
Low-cost producers**	23.16	23.09	21.21	22.67
Raw sugar prices***	12.25	11.11	9.94	6.63
White sugar prices****	15.94	14.48	12.30	9.81

* average for Australia, Brazil (centre/south), Guatemala, Zambia, Zimbabwe

** average for Belgium, Canada, Chile, France, Turkey, the UK and USA

*** ISA DP

**** LDP

Source: ISA reproduced from S Haley, 2001, ERS/USDA

Production costs and market prices

A critical perspective is that the average world costs of production exceed the average world price level. This situation is explained by the fact that many producers benefit from supportive government policy, notably Western Europe's beet sugar sector and producers in the United States, but also high cost cane producers.²⁰

In terms of prices it can be argued that the world sugar market is a residual market. Most of the major sugar exporting countries protect their domestic markets with price support, subsidies and with high tariffs. For all OECD countries the producer nominal assistance coefficient (a measure for all transfer from taxpayers and consumers to individual producers) for sugar was around 1.75 in 1998,²¹ which means that gross farm receipts are 1.75 times higher than they would be without budgetary support.

However, not only OECD countries protect their domestic markets. In Brazil, for example, the domestic sugar price is high enough to cover most or all of the fixed costs of sugar production. The Australian government subsidises the irrigation systems of the sugar cane plantations. And in Thailand, growers are supported with favourable credits and subsidised

²⁰ ISA: *ibid*, p. 43

²¹ Hazeleger: *ibid* p. 6

fertilisers. However, the level of support in these countries is much lower than in the EU (NEI).

Despite the growing globalisation of the world economy, many sugar producers still remain rather isolated from world market turbulence. Sugar regimes in practically all developed countries except Australia create internal markets for producers, no matter what happens outside. Thus, in many EU countries and the US, sugar beet has become the one of most profitable agricultural crops. As a result, production has grown in spite of poor world prices. The list of countries with a high level of border protection is long. According to the analysis of the International Sugar Organisation, by 2001 (after the reductions in import tariffs agreed under the Uruguay round of the GATT negotiations) the weighted average of import duty still reached 72 per cent for raw sugar and 88 per cent for white sugar²².

Weather matters

Despite all technological advances, the dependence of sugar production on the weather is still high. Normally the weather takes the blame for production shortfalls, but sometimes it can also mute the price signals. For example, in 1999, in an attempt to ration sugar production in response to low world prices, the EU reduced the sowing areas by 2 per cent. Excellent growing conditions, however, not only compensated for reduction in areas but also led to a new production record.

Increase in the share of developing countries stabilises sugar prices

The sugar price on the international market used to be, as already mentioned, highly volatile. The history of the sugar market is characterized by long periods of stable trading conditions, occasionally interspersed with brief explosive bull markets (Figure 1, p. 20). The last bull market arose as substantial supply deficits in 1979-80 and 1981-82 coincided with inflationary expectations associated with the second oil crisis and the speculative boom in precious metals.

Comparing the price volatility between several commodities shows that between 1980 and 1989 the price of sugar was the most volatile of all soft commodities, including coconut oil, copra, rice, fishmeal, soybean oil,

²² Gudoshnikov, 2000

bananas, wheat and beef. However, in the 1990s the sugar price volatility declined to the all-commodity average.

During the last decade the dominance of the import market has shifted from the developed countries to developing countries. By 1996 the relative share of developing countries was almost 60% of the market. Developing countries have on average higher price elasticity than developed countries²³. Thus, when prices rise less is purchased, and vice versa. The result is a much more stable sugar price over the last 10 years than there used to be 20 to 30 years ago (Figure 1, p. 20)

Key players on the world sugar markets

From an export perspective, flows of raw sugar onto the world market are dominated by a very few exporters. Australia and Thailand are the major suppliers to the Asian market. Brazil and the European Union supply western and northern African countries, and are also major suppliers to East and Central Europe, along with Cuba.

For the white sugar trade, Brazil and the EU will continue to act as key drivers. The EU's traditional role as an exporter of high quality white sugar is maintained by price support arrangements and export subsidies. Brazil's rapid emergence as a significant supplier of generally lower quality sugar reflects its generally low production costs and, to some extent, government support to its alcohol sector (ceased in the late 1990s).²⁴ The rapid rise of Brazil as a key player in both the raw and white sugar markets is the most significant development in the world export market.

The remaining preferential sugar trade arrangements offer considerable benefits to ACP producers and some other developing countries. Preferential trade, however, is not likely to significantly drive the future direction of world free trade and prices over the long term. The key issue for higher cost cane sugar industries is the possible further erosion of benefits under these preferential access and pricing arrangements.²⁵

²³ Hannah, 1998

²⁴ ISA: *ibid*, p.54

²⁵ ISA: *ibid*, p.54

2. SUGAR POLICY SCHEME IN THE EUROPEAN UNION

The European Union sugar sector is subject to the regulations the Common Market Organisation (CMO) for sugar, which has been one of the components of the Common Agricultural Policy (CAP) for over thirty years. Introduced in 1968, the sugar regime is a part of the EU's Common Agricultural Policy covering the production and marketing of beet and cane sugar within the Member States. The purpose of the regime is to provide EU producers and consumers, as well as producers in certain ACP and least developed countries, with a stable market for sugar. In this policy environment the EU sugar sector enjoys protection through a system of production quotas and price support in combination with export refunds and restrictions of imports.

The Common market organisation (CMO) of sugar in the EU

The European common market organisation for sugar consists of three elements²⁶:

- d) production control (quotas),
- e) price support (internal prices, production levies and refunds), and
- f) trade measures (export refunds, import levies and preferential agreements).

These key principles form the basis for the complex EU sugar regime. Many details, special clauses and exceptions to the rules exist in order to make the system work for different parts of the value chain and for the various member countries.

The CMO for sugar is unique compared to other commodities of the EU agricultural policy in that the EU sugar regime has not been subject to the two large policy reforms of the 1990s (McScarry 1992, Agenda 2000, 1999).

The CMO is to a large degree financed by the sugar producers and industry, except for re-exporting of sugar originally imported under preferential agreements with the ACP countries and India.

²⁶ Hazeleger; *ibid*, p. 8

The EU regime for sugar features high border protection, guaranteed prices for limited quantities of production, and public support for re-export of sugar imported on preferential terms.

Production control

The major beet producer, the European Union, produces sugar in fourteen out of the fifteen member states. It has a highly regulated price structure for sugar produced under quota. Sugar production within the EU is controlled by quotas per country and per industry. There are two types of quota: A quotas (about 12 million tonnes) roughly cover the internal demand of the EU, while B quotas (2.5 million tonnes) equal the amount of sugar that can be exported with the aid of export refunds. Any quantity of sugar produced in excess of the sum of total A and B quotas is called C sugar. According to EU legislation, C sugar must be exported to the world market without export subsidies or carried over to the following marketing year.

The EU's regulation allows for 14.482 million tonnes of sugar to be produced under A and B quotas.

Guaranteed prices (intervention price, basic and minimum prices for sugar beets and cane) only apply to the A and B sugar quotas, and only A and B sugar can be sold on the EU market. The major difference between A and B sugar is the size of the production levy.

The sugar quota is distributed to member states in fixed proportions, reflecting the levels of production at the time the sugar scheme was established or – for new members – at the time just before the entry into the EU.

The regime is reviewed every five years. The last EU sugar regime reform was agreed at the May 2001 EU Agriculture Council and entered into force in July 2001, and will apply through the 2005/2006 marketing year. The reform mostly rolls over the existing regime for an additional five years, with a few changes. One change is a permanent cut of 115 000 tonnes in the EU quota. Storage systems will also be phased out. The current regime, which would normally be reviewed in 2006, is to undergo a review in 2003 that is independent of the on-going CAP mid-term review.

The quota fill rate varies considerably from country to country. Mediterranean countries such as Greece and Portugal have not been able to fill the A quota. On the other hand, countries like UK, France, Austria and

Table 9. *EU sugar production quotas for marketing year 2001/02-2005/06*

Country	A quota tonnes	B quota tonnes	B/A %	Total tonnes	Share %
Austria	314 029	73 298	23.3	387 267	2.7
Belgium	674 906	144 906	21.5	819 812	5.7
Denmark	325 000	95 746	29.5	420 756	2.9
Finland	132 806	13 280	10.0	146 086	1.0
France-continent	2 506 487	752 260	30.0	3 258 747	22.7
French overseas territ.	463 872	46 372	10.0	510 244	3.3
Greece	288 638	28 864	10.0	317 502	2.2
Germany	2 612 913	803 982	30.8	3 416 895	23.6
Ireland	181 145	18 115	10.0	199 259	1.4
Italy	1 310 904	246 539	18.8	1 568 259	10.7
Netherlands	684 112	180 447	26.4	864 559	6.0
Portugal-continent	63 380	6 338	10.0	69 718	0.5
Portugal-Azores	9 048	905	10.0	9 953	0.1
Spain	957 082	39 879	4.2	996 961	6.9
Sweden	334 784	33 478	10.0	368 262	2.5
UK	1 035 115	103 512	10.0	1 138 625	7.8
EU-15	1 1894 223	2 587 919	21.8	14 482 142	100.0

Source: Council Regulation 1260/2001 of June 19, 2001, Official Journal L 178

Germany have a considerable production of C sugar, indicating that at least some countries in the EU might be capable of producing sugar at the world market price²⁷.

Price support

The EU scheme for sugar is based on a multiple pricing system, providing sugar factories with a guaranteed price for A and B quotas of sugar, imports of sugar being restricted through high import duties. Each year the EU Council of the Agricultural Ministers fixes an intervention price for white sugar. From the intervention price the basic and minimum prices for sugar beet and cane are derived.

²⁷ Frandsen et al., *ibid.*

Minimum prices are fixed annually both for sugar beet and white and raw sugar. The minimum beet prices are the minimum prices that can be paid for sugar beet within the production quotas while the white and raw sugar intervention prices are the minimum prices that should be achieved by the sugar processors.

Guaranteed minimum prices for A and B quota

Each member country is allocated a fixed quota of sugar – as mentioned above - that is non-transferable between countries.²⁸ From the basic price the production refunds are deduced, resulting in a minimum price for A and B quota sugar. The processor is obliged to pay the growers at least these minimum prices, and it is legal obligation that guarantees basic beet and cane prices for A and B quotas.²⁹

To cover the costs of the export refunds the EU imposes production levies:

- a) 2% of the intervention price for sugar on both A and B quota sugar,
- b) a variable levy on B quota sugar with a maximum of 37.5% of the intervention prices for sugar,
- c) an additional levy in case the 2% and 37.5% levies are not enough to cover the costs of the export refunds.

C sugar price

C sugar is produced in excess of the A and B quotas. Processors are obliged to export it to the world market without export refunds. Processors have no legal obligation to pay growers the minimum price. In practice, farmers receive about 60% of the receipts of C sugar.³⁰

²⁸Frandsen et al, 2001

²⁹ Hazeleger: *ibid*, p. 9

³⁰ NEI, *ibid*, p. 16

Table 10. *C-sugar supplies by the EU member states, 2000/2001 and 2001/2002, 1000 tonnes raw sugar value*

Country	2000/01	2001/02 Estimates
Austria	105	73
Belgium/Luxemburg	245	74
Denmark	183	87
Finland	29	22
France	1 773	658
Greece	60	57
Germany	1 383	416
Ireland	45	28
Italy	317	98
Netherlands	327	97
Portugal	0	0
Sweden	95	64
United Kingdom	347	145
Total	5 180	1 915

Source: European Commission

Trade measures

The total production of sugar in the EU amounts to about 17 million tonnes. Total exports have in recent years been about 4-6 million tonnes, of which 2-4 million tonnes is C sugar. After having produced 5.2 million tonnes (raw sugar equivalent) of C sugar in 2000/2001, current (September 2002) estimates for 2001/2002 show an overshoot of the total A and B sugar production quota of only 1.9 million tonnes due to the significantly reduced production in 2001/2002.³¹

The scheme is self-financing in the sense that production in excess of the A and B quota of sugar is exported at the world market price, whereas the costs of exports of A and B sugar in excess of internal demand is covered by taxes on primary production. Costs associated with other exports of sugar, mainly re-export of imported sugar at preferential terms, is covered by the EU.

³¹ USDA, 2002

The EU sugar market is, nonetheless, isolated from the world market through a system of import duties and export refunds.

Import duties

Following the GATT Uruguay Round the EU has imposed fixed import tariffs on sugar imports. All products covered by the common organisation of the markets in the sugar sector are subject to the rates of import duty listed in the Common Customs Tariff.

There is a special safeguard clause in the GATT agreement that allows the EU to impose an additional import duty if the value of the imported sugar (price plus duty) drops below the trigger level. The trigger prices below which an additional duty may be imposed are notified by the EU to the WTO. Additional duties currently (effective March 12, 2002) applicable to imports of sugar are euro 64.1/tonne for raw cane sugar for refining, euro 62.2/tonne for raw beet sugar for refining and euro 113.9/tonne for white sugar.³² Fixed and additional import duties are generally prohibitive. Hardly any non-preferential sugar is imported into the EU.³³

Table 11. *EU import tariffs for white, raw and preferential sugar, ECU/tonne*

Marketing year	White sugar euro/tonne	Raw sugar euro/tonne
1995/96	507	410
1996/97	490	396
1997/98	473	382
1998/99	456	368
1999/00	439	354
2000/01	419	339

Source: NEI

³² USDA: *ibid*, p. 14

³³ Hazeleger, *ibid*, p. 11

Export refunds

The EU exports three distinctive categories of sugar:

- a) quota sugar (A and B) that qualifies for export refunds,
- b) a quantity of sugar equivalent to the amount of imported preferential sugar (re-export) which also qualifies for export refunds and
- c) C sugar which must be exported to the world market without export refunds.

Table 12. *EU export subsidies 1995/96-2000/01, annual commitments versus actual subsidised exports*

Market year (Oct-Sept.)	Volume 1000 tonnes (white sugar equivalent)	
	Annual commitment	Actual subsidised export
1995/96	1 555.6	856.3
1996/97	1 499.2	1 200.3
1997/98	1 442.7	1 699.1
1998/99	1 386.3	1 546.1
1999/00	1 329.9	970.6
2000/01	1 273.5	882.2

Source: Schedule CXL: European Communities, Part IV Agricultural Products

The maximum export refund equals the intervention price plus free on-board costs minus the world market price. Under the Uruguay Round Agreement on Agriculture the EU is obliged to reduce the amount it spends on export refunds. It will do so by reducing the quantities (sugar quotas) exported with the aid of export refunds. This was applied for the first time to production quotas for the 2001/02 marketing year. Quotas were reduced by 115 000 tonnes.³⁴

Enlargement of the EU

On January 30, 2002, the European Commission published its proposal for extending the Common Agricultural Policy to EU accession candidate countries. The candidates include the ten central and eastern European

³⁴ Hazeleger, *ibid*, p. 11

countries expected to join the EU in 2004: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

The proposals include the Commission's suggestions for extending the sugar regime to the candidate countries. These proposals must still be approved by the Council. According to the proposals, all aspects of the sugar regime will be directly and fully applicable in the new member countries when they accede. The Commission proposed quotas for sugar production in the candidate countries based their average production from 1995 to 1999.

For net importing countries (such as Estonia, Slovenia and Latvia) the A quota is set equal to net production and the B quota is set at 10% of the A quota. For net exporting countries (Poland, Czech Republic, Hungary, Lithuania and Slovakia), the A quota is set equal to the portion of net production consumed domestically and the B quota is set equal to net exports. However, in order to ensure that the EU is able to dispose of additional surplus sugar without exceeding WTO export subsidy limits, the total A and B quotas for each country do not exceed internal consumption plus quantity that can be exported within WTO commitments.³⁵

³⁵ USDA: *ibid*, p. 19

3. EU preferential trading agreements for sugar

The EU is the world's largest agricultural importer and the second-largest exporter. Although the EU has pursued global multilateral trade negotiations within the World Trade Organisation (WTO) and extends most-favoured-nation (MFN) treatment to WTO members, it also participates in more non-global preferential trading agreements than any other WTO member. Over two-thirds of EU agricultural imports come from countries with such agreements.³⁶

Although the European Union remains one of the world's leading sugar producers, it is also a major importer of sugar. Practically all sugar the EU imports comes under preferential arrangements. The EU sugar regime allows for duty-free or reduced-duty imports of both raw and white sugar from third countries.

Preferential Sugar

For the EU sugar market, among the most important agreements has been so-called Preferential Sugar. This is among the agreements concerning economic and political relations between the EU and the African, Caribbean and Pacific countries (ACP). Relations between the EU and ACP countries have developed as a unique combination of aid, trade and political co-operation. These special EU-ACP relations date back to the treaty of Rome (1957). Today's relations with ACP are governed by the ACP-EU Partnership Agreement, signed in Cotonou on 23 June 2000.³⁷

Before the UK became a member of the EC in 1973, it already imported large quantities of raw cane sugar, which was refined in the UK. When the UK joined the EC, its importation of raw cane sugar from former colonies in Africa, the Caribbean and the Pacific (ACP countries) was included in the EC/ACP Convention signed in 1975 and also became part of the Common Market Organisation (CMO). According to protocol 8 of the ACP/EC Convention, the EU guarantees to buy annually, for an indefinite period, 1 294 700 tonnes of sugar (white sugar equivalents) from ACP countries. These imports are exempted from import duties. India was subsequently

³⁶ Economic Research Service/USDA, 2001

³⁷ www.Europa: Bilateral Trade Relations, ACP Countries (77), July 2001

added to this list with a quantity of 10 000 tonnes. This imported sugar is called Preferential Sugar. The Sugar Protocol and a parallel agreement with India allows for the import of 1.3 million tonnes of raw sugar, white value, a year.

The prices to be paid for Preferential Sugar are negotiated annually between the EU and ACP States. In practice, the price for bulk raw cane sugar has always been about equivalent to the derived Intervention Price for raw sugar in the UK.³⁸ Preferential imports provide a guaranteed income to ACP states, the EU being committed to buy at the guaranteed price through the Intervention Agencies in case no other buyer can be found.³⁹

At present, 77 ACP countries are signatories to the Cotonou Agreement: 48 African States, covering all sub-Saharan Africa, 15 states in Caribbean and 14 states in the Pacific. Out of the 49 least developed countries (LDC) (also covered by the EU's Everything But Arms Initiative of February 2001), 40 are ACP countries.

Most Favoured Nation (MFN) arrangements and Finland

In addition to preferential imports, the Commission also sets an annual tariff quota, called the "MFN quota", for supply of raw cane sugar to Community refiners. When Finland (1995) joined the EU, the preferential import scheme was further modified. Finland's guarantees relating to supply arrangements with third countries became part of the EU's import commitments known as imports under MFN. Following the accession of Finland, the EU has undertaken to import, as from 1 January 1996, 85 463 tonnes of raw cane sugar from third countries intended for refining at a reduced duty of EUR 98 per tonne. The quota allocation by country of origin is as follows: Cuba 58 969 tonnes, Brazil 23 930 tonnes, other third countries 2 564 tonnes.⁴⁰

Special Preferential Sugar

Further quantities are also imported to the EU under the Special Preferential Sugar scheme (SPS). The Special Preferential Sugar Agreement was signed in June 1995, but unlike the Protocol it is of fixed duration. The SPS makes

³⁸ NEI, 2001

³⁹ USDA, 2002

⁴⁰ USDA, *ibid*, p. 15

up for the extra raw sugar needed to meet EU sugar refiners' needs and largely comes from ACP states. It is not, however, ACP preferential sugar.

In 1995, under the EU new sugar import regime, the maximum supposed needs (MSN) concept was introduced.⁴¹ The EU established maximum supposed needs for countries with raw sugar refining industries (UK, France, Portugal, and Finland). Annual maximum supply needs (MSN) for EU refineries have been established through Council Regulations 1260/2001 as 1 776 766 tonnes white sugar equivalent. This is broken down to 59 915 tonnes for Finland, 296 627 tonnes for continental France, 291 633 tonnes for mainland Portugal, and 1 128 581 tonnes for the U.K.

Alongside production quotas the MSN are subject to reduction in order to meet the WTO commitments. The SPS is the difference between the MSN and sugar imports from the French Departments Outre Mer (DOM), under the ACP/India quotas, the MFN sugar and, since recently, the EBA sugar deliveries. No import duty is charged on the SPS.⁴²

With the introduction of the EBA, the volume of the SPS sugar has been reduced from 313 thousand tonnes in 2000/01 to 214 thousand tonnes in the 2002/03 period. Further reductions in the volume of the SPS are expected due to increases in EBA quotas and possible cuts in the MSN.⁴³

EBA initiative

On 26 February 2001 the European Union decided (Council Regulation 416/2001) to liberalise imports of all products, except arms, from least developed countries (LDC). In doing so, the EU extended free access to all sensitive agricultural products, doing away all remaining tariffs. Even the three most sensitive products – rice, sugar and bananas – were included, but will be progressively liberalised over the next four to eight years. This decision came into force on 5 March 2001.

The 1998 extension to the General System of Preferences (GSP) of the EC coverage for the exclusive benefit of non-ACP LDCs led to a situation where the access conditions for ACP LDCs were, most of the time, still more favourable than those for non-ACP LDCs under the GSP. In fact, all the sensitive agricultural concessions, which are granted under Cotonou special

⁴¹ ISO: *ibid*, p.24

⁴² ISO: *ibid*, p.24

⁴³ ISO: *ibid*, p.24

protocols (e.g. the sugar protocol) and quotas and only apply to a few ACPs, had been extended to the non-ACP LDCs.⁴⁴ The 2001 EBA amendment extends duty/quota-free access to all products originating in LDCs, except for arms and ammunition falling within HS Chapter 93.

When the EU's General Affairs Council adopted the Everything but Arms initiative, it immediately extended duty-free and quota-free access to all meat and dairy products, fruits and vegetables (fresh and processed), cereals, processed sugar and cocoa containing products, alcoholic beverages, and so on. For fresh bananas, the EU tariffs will be gradually reduced from the full EU tariff to zero on 1 January 2006. From 1 July 2001 until 1 July 2009, the EU Commission will open zero-duty tariff quotas for raw cane sugar for refining, initially amounting to 74 185 tonnes white sugar equivalent and increasing by 15 per cent in each subsequent marketing year (July-June). Initial quota amounts are based on the best export levels of LDCs to the EU in the recent past (Table 13).

This will pave the way for full tariff elimination for sugar between 2006 and 2009. Common Customs Tariff duties on the products of tariff heading 1701 (i.e., cane or beet sugar and chemically pure sucrose, in solid form) will be reduced by 20% on 1 July 2006, by 50% on 1 July 2007, by 80% on 1 July 2008, and will be completely eliminated on 1 July 2009, at the latest.

In contrast to the well-established distribution mechanism of the ACP quota or so-called Special Preferences Sugar, at the time of the EBA adoption it was unclear how the EBA quotas would be administrated. In October 2001 the Framework Agreement on EBA Sugar was established.⁴⁵ The Agreement identifies 25 countries as the LDC sugar supplying states. All LDC sugar supplying countries wishing to participate in the EBA Sugar Quota are required to sign the Framework Agreement and to register with the EBA Sugar Working group their intention to supply sugar to the EU.⁴⁶

⁴⁴ UNCTAD: Handbook on the GSP scheme of the European Community

⁴⁵ ISO: *ibid*, p. 3

⁴⁶ ISO: *ibid*, p. 12

Table 13. *Everything but arms, quotas for preference imports, 1000 ton*

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Sugar	74 185	85 313	98 110	112 827	129 751	149 213	171 595	197 335

Source: USDA: European Union Sugar Annual 2002, GAIN Report, 4/10/2002

Cumulative rules of origin

Imports under the EBA initiative are not subject to quantitative restrictions but to rules of origin. Products originating outside the LDCs are not eligible for duty-free status. However, there is a cumulation of rules of origin of the current General System of Preferences of the EU.

The beneficiaries of this liberalisation move are the 49 LDCs already covered by the EU's General System of Preferences (GSP). The concession applies the current GSP rules of origin, which also allow cumulation between the LDCs and ASEAN⁴⁷, SAARC⁴⁸, and the EU, under certain conditions. Regional cumulation means that LDCs can export as their own goods, products which have been imported from, and are originating in other members of the same regional organisation, provided that⁴⁹:

- a) the value added in the LDC is greater than the highest customs value of the products used originating in any one of the other countries of the regional group ("at least 100% value added to the import value");
- b) the working or processing carried out in the LDC exceeds the "minimal operations";
- c) adequate proof exists of the originating status of goods exported within the regional group, or from a country of the regional group to the Community;
- d) the rules regulating trade in the context of regional cumulation, as between the countries of the regional group, are identical to those laid down for the GSP; and

⁴⁷ASEAN: Cambodia, Thailand, Laos, Vietnam, Indonesia, Malaysia, Brunei, Singapore, Philippines

⁴⁸ SAARC: Pakistan, India, Bangladesh, Maldives, Sri Lanka, Nepal, Bhutan

⁴⁹ Articles 72, 72a and 72b of Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code, as amended by COMMISSION REGULATION (EC) No 1602/2000 of 24 July 2000, Official Journal L 188 of 26.7.2000, p.1.

Table 14. *Sugar production and consumption in the LDCs, in the ASEAN/SAARC and in the EU, and production surplus/deficit, 1996-98 average, 1000 tonnes*

	Production	Consumption	Production Surplus/Deficit
	1000 tonnes	1000 tonnes	1000 tonnes
LDCs	2 056	3 686	-1 629
ASEAN/SAARC	29 252	27 705	1 547
EU15	17 701	13 869	3 832

Source: FAO, EU statistics

- e) each country of the regional group has undertaken to comply or ensure compliance with these terms and to provide the administrative co-operation necessary both to the Community and to the other countries of the regional group in order to ensure the correct issue and verification of proofs of origin.

Sugar production of about 30 million tonnes in the ASEAN/SAARC areas is almost twice the EU production.

Safeguard clause

In order to alleviate concerns that these changes would be too disruptive to the EU sugar market, the European Council has inserted a safeguard clause in the regulation stating that preferences may be suspended if imports cause serious disturbance to the Community markets and their regulatory mechanisms. Preferences would then be suspended according to the procedure generally applicable under the scheme of the Generalised System of Preferences (GSP). Furthermore, the regulation contains a "temporary withdrawal clause", which would reintroduce common customs tariff duties in case of fraud or failure to provide administrative co-operation as required for the verification of certificates of origin, or massive imports into the EU from LDCs in relation to their usual levels of production and export capacity.⁵⁰

The European Commission has pledged that it will monitor imports of sugar carefully and apply safeguard measures if necessary to prevent

⁵⁰ USADA: *ibid*, p. 16

damaging surges. The preferential access of LDCs may then be temporally suspended. The Commission will report to the Council in 2005 on the impact of trade within the EU on LDCs and ACP countries. Moreover, if exports by the LDCs increase – or are likely to have increased – by 25% over the previous year there will be an automatic review of the conditions for applying safeguard measures.⁵¹

EBA impact on the EU sugar market

In the short term (up until 2006) no significant impact of the EBA sugar on the EU sugar market is expected. In the first stage of implementation (2001/02-2005/06) the EBA sugar exports are restricted to raw cane sugar only and are regulated by quotas. The EBA will gradually displace the SPS with neither an impact on the EU sugar balance nor an additional budgetary pressure.

In the longer term, the impact of unlimited access to the EU market finally starting from 2009 will depend on the shape of the future EU sugar regime. If the EU prices remain significantly higher than those of the world market, the export-oriented sugar producers in the LDCs could easily surpass the “maximum supply needs” (MSN), and solutions for balancing the sugar trade in the EU have to be found, especially when considering the commitments the EU has made under the WTO agreements on agriculture.⁵²

EBA will force further CAP reform

In its early assessment of the impact on the EU agricultural sector, the European Union’s Trade Directorate General admits that application of the EBA could lead to serious pressures on EU domestic prices and have substantial effects on the EU agricultural support budget.⁵³ The major problem, seen from a domestic agriculture policy point of view, is the attraction of the very much higher prices in the EU compared with the world market and the scope for trade diversion through the potential EBA signatory countries from non-signatory countries, such as some non-LDC ACP countries.

⁵¹ ISO: *ibid*, p.4

⁵² ISO: *ibid*, p.4

⁵³ Agra Europe, March 9, 2001

Despite the EBA, the EU is under pressure to reform its sugar regime. Following the Uruguay Round Agreement on Agriculture, the EU is bound to reduce border protection and to limit the quantity of supported exports of sugar. In addition, the prospective for enlargement of the EU is increasingly causing concern with regard to the budgetary consequences of high support for agriculture. The inclusion of Central and Eastern European Countries in the present EU market regime would greatly increase the potentials for surplus production of sugar, and enhance the financial burden of the market regime in the EU.

4. THE SUPPLY OF SUGAR IN THE EUROPEAN UNION TAKING INTO ACCOUNT THE ENLARGEMENT OF THE EU

Beet production in the EU

European sugar beet is cultivated on over 2 million hectares. This area represents some 3 per cent of the European Union's arable land.

The EU Farm Structure Survey of 1997 shows that there were 268 040 sugar beet farms in the EU in 1997, of which 61 950 (23%) were in Italy and 50 350 (19%) in Germany. The highest average beet areas were found in the UK (20.9 ha), France (14.5 ha), and Sweden (12.2 ha), while beet growing occurred on a small to average scale in Portugal (0.69 ha), Austria (4.5 ha) and Italy (4.6 ha).

According to the EU Commission, total EU beet output in the market year 2001/02 amounted to 16.0 million tonnes of raw value. Major producer member countries were France (4.0 million tonnes in raw value), Germany (4.0 million tonnes), Italy (1.4 million tonnes), the UK (1.3 million tonnes), Spain (1.0 million tonnes) and the Netherlands (1.0 million tonnes). The sugar production of Finland was 0.159 million tonnes in 2001/02.

Table 15. *Total sugar production in the EU (1 000 tonnes raw value)*

	2000/01	2001/02 Preliminary	2002/03 forecast
Austria	447	461	475
Belgium	1 024	913	996
Denmark	579	520	512
Finland	166	159	161
France, beet	4 685	4 007	4 740
France, cane	274	262	267
Germany	4 738	4 046	4 165
Greece	399	341	311
Ireland	238	228	223
Italy	1 687	1 395	1 675
Netherlands	1 153	1 036	1 066
Portugal	62	61	42
Spain, beet	1 171	1 023	1 006
Spain, cane	9	7	9
Sweden	448	437	434
U.K.	1 440	1 342	1 506
Total EU (15)	18 520	16 238	17 589

Source: Mary Revelt: European Union Sugar , Annual 2002, USDA

The annual supply of sugar on the EU market consists on average of⁵⁴:

- a) 14.5 million tonnes of quota sugar produced in the EU and the French overseas territories,
- b) about 1.7 million tonnes of so called preferential imports of sugar,
- c) 28 000 tonnes of non-preferential imports, and
- d) 74 000 tonnes of duty-free imports from the Spanish and Portuguese islands (Aegan Islands, Azores, Canary Islands and Madeira).

⁵⁴ NEI, 2001

Guiding quotas

In order to assess the share of quota sugar in total sugar production, the annual sugar production has been expressed as a percentage of the quota in Table 16. On the basis of this table, the following observations can be made⁵⁵:

- a) At the level of the EU, total production fluctuated between 109% and 122% of the total quota. Quota production was 97-98% of the total available quotas including C sugar.
- b) Most Member States always produce more than their quota, apart from a few exceptions, which were mostly due to climatic circumstances.
- c) Production in Finland fluctuated between 85 and 125% of the allocated quota.
- d) For most years, Greece produced substantially less than its quota.

Table 16. *Total sugar production as a percentage of quota, by EU Countries, 1995/96-1998/99*

Member State	1995/96	1996/97	1997/98	1998/99
Austria	113	126	124	125
Belgium	108	115	123	96
Denmark	102	119	127	125
Finland	110	93	125	85
France	127	126	142	129
French DOM	51	55	51	50
Germany	111	122	117	117
Greece	90	83	114	64
Ireland	111	114	103	110
Italy	95	92	111	102
Netherlands	113	119	117	95
Portugal			100	94
Spain	110	120	114	116
Sweden	96	108	107	108
UK	106	129	139	126
EU including C sugar	97.1	96.7	98.4	96.8

Source: NIE: Evaluation of the Common Organisation of the Markets in the Sugar Sector, 2001

⁵⁵ NEI: *ibid*

- e) Italy was not able to use its full quota until 1995. Quota use has improved since 1998/99.
- f) Portugal used little of its quota until 1996. In 1997 it started importing beets from Spain in order to use its quota.
- g) Spain did not use its full quota during the years 1989-92. Since 1992 it has produced on average about 15% more than its quota.

So, it is easy to see that the sugar production quota system is almost totally guiding in function. Deviations from the quota level may happen because of weather variations. Nevertheless, there is normally a certain amount of overproduction with respect to the quota levels.

Sugar beet production areas and yield levels

The total production of the different member countries ultimately depends on the total area under sugar cultivation and the sugar production yields. In both respects there are big differences between separate member countries. The yield of sugar beet production is lowest in Finland and highest in France. The largest area under cultivation is situated in Germany (Table 17).

Table 17. *EU sugar production areas in different member countries and yield levels*

Member states	Production area, 1 000 ha		Yields, tonnes per ha	
	2000/01	2001/02 Prelim.	2000/01	2001/02 Prelim.
Austria	43	45	9.78	9.66
Belgium/Lux.	95	96	10.78	9.51
Denmark	58	56	9.99	9.28
Finland	32	31	5.20	5.12
France	321	386	12.98	10.38
Germany	451	449	10.46	8.96
Greece	50	43	7.98	7.94
Ireland	33	31	7.21	7.36
Italy	249	220	6.78	6.34
Netherlands	112	109	10.30	9.50
Portugal	8	5	7.74	12.17
Spain	130	114	9.01	8.97
Sweden	55	54	8.14	8.09
U.K.	146	151	9.86	8.89
Total EU-15	1 823	1 790	9.98	8.89

Source: European Union Sugar Annual, USDA, 4/10/2002

Enlargement

Several EU membership candidate countries have indicated disappointment with the Commission's use of the 1995-1999 base period, as they consider their recent production figures to be more representative of true industry capacity and consumption needs. While there may be small scope for candidates to dispute the data used by the Commission, it is unlikely that the Commission would deviate from the basic methodology, which is also used for other agricultural sectors.

Table 18. *Commission Proposals for sugar quotas for EU membership Candidates*

Candidate country	Total quota tonnes	Quota A tonnes	Quota B tonnes
Cyprus	-	-	-
Czech Republic	445 237	441 409	3 828
Estonia	-	-	-
Hungary	380 021	378 791	1 230
Latvia	52 482	47 711	4 771
Lithuania	96 241	96 241	-
Malta	-	-	-
Poland	1 665 017	1 590 533	74 484
Slovakia	208 736	189 760	18 976
Slovenia	52 977	48 161	4 816
Total	2 900 711	2 792 606	108 105

Source: EU Commission

Total sugar beet supply will increase by about 20 per cent following the accession of the new candidates from the beginning of May in 2004.

Structure of the sugar industry in the European Union

Sugar processing companies allocate contracts to supply sugar beet to farmers, buy the beets from farmers for a price fixed by the EU, process them into refined white sugar and sell the sugar to the domestic or foreign markets.

Table 19. *The top 10 sugar companies in the EU*

Company	Share of total EU beet sugar production quota, %
Sudzucker	16
Beghin-Say	14
British Sugar	8
Nordzucker	7
Danisco	7
Az. Ebro Puleva	5
Saint Luis Sucre	5
Pfeifer&Langen	4
Cosun	4
Other	30

Source: Rabobank, 2002

The EU sugar industry is dominated by a group of 10 leading companies. Sudzucker, headquartered in Germany, has the largest quota of 2.4 million tonnes, representing 16.4 per cent of the total EU sugar quota of 14.5 million tonnes. The quota of the 10 largest companies account for over 70 per cent of the total EU sugar quota.⁵⁶

The EU beet sugar companies each have their sugar production quota for which they receive at least the minimum intervention price. These quotas largely match national consumption levels, leaving relatively little sugar for exports, with the notable exceptions of France, Belgium and Germany.

Over the past decade, ownership has become more concentrated among a shrinking number of EU sugar processors: from 1989 to 1999 the number of processing and refining companies fell by a third. By the late 1990s, in 8 of the 14 sugar-producing member states there was just one company controlling the entire sugar beet quota.⁵⁷

Every year, the European sugar industry produces over 16 million tonnes of white sugar from Community beet and about 1.7 million tonnes from imported raw sugar cane. About a million people are involved in the EU sugar industry.

⁵⁶ Rabobank, 2002

⁵⁷ Oxfam, 2002

5. THE POTENTIAL SUPPLY OF SUGAR IN THE LEAST DEVELOPED COUNTRIES

There is practically no beet sugar production in the least developed countries. Major producers of sugar cane in 2001 were Bangladesh (6.9 million tonnes), Myanmar (5.9 million), Sudan (5.0 million) and Ethiopia (2.4 million) (Table 20).

Table 20. *Sugar cane production in the least developed countries in 2001, million tonnes*

Country	Production, million tonnes
Bangladesh	6.9
Myanmar	5.9
Sudan	5.0
Ethiopia	2.4
Nepal	2.2
Madagascar	2.2
Malawi	1.9
Zambia	1.8
Congo, Dem. Republic of	1.7
Uganda	1.5
Tanzania	1.5
LDCs total	38.5

Source: FAO statistics

There are altogether 36 sugar cane producing countries among the 49 LDCs.

Sugar production and potential supply in the LDCs

Nowadays, many LDCs have sugar refining capacity. However, it will take a few years to improve this capacity, since LDCs do not produce white sugar of EU quality. The total production of sugar (centrifugal, raw) in 2001 was about 2.6 million tonnes, while consumption was about 4.1 million tonnes. Sugar exports of the LDCs totalled 664 thousand tonnes and imports about 2.5 million tonnes in 2001.⁵⁸

⁵⁸ ISO, 2001

Table 21. *Sugar production (raw) in the LDCs in 2001, 1 000 tonnes*

Country	Production, 1 000 tonnes
Sudan	783
Etiopia	285
Malawi	245
Zambia	222
Uganda	155
Bangladesh	136
Tanzania	135
Senegal	99
Congo, Dem. Rep.	71
Nepal	70
Madagascar	63
LDC, total	2 582

Source: FAO statistics

In 2001, raw sugar production by LDCs was only one-sixth of EU's sugar consumption. However, it is most likely that once LDCs discover the huge opportunity that lies behind the EBA initiative they will dramatically increase their raw sugar production within a few years. While they can import their domestically consumed sugar at the world market price, at the same time they can sell their own production to the EU at a higher price. In 1999/2000, the sugar price in the EU was 650 €/tonne while the world market price was 250 €/tonne (EU Commission, 2001).

One important issue is the GSP rules of cumulative origin. If refining is considered to add 100 per cent value, LDCs can import raw sugar from ASEAN and SAARC countries to refine and export it to the EU.

In 2001, the total raw sugar production of ASEAN and SAARC countries was 31.5 million tonnes, more than twice the EU's consumption in the same year (see Annex). However, there are a number of difficulties that make this scenario very unlikely. One major obstacle is the lack of financing in the least developed countries. For example, infrastructure improvement to build the needed refining facilities would demand huge investments.

On the other hand, if refining does not change the origin, LDCs can export raw sugar to third countries. Nevertheless, after refining, third countries can import sugar to the EU tariff-free because of its LDC origin. In this scenario, the majority of EBA benefits go to third countries.

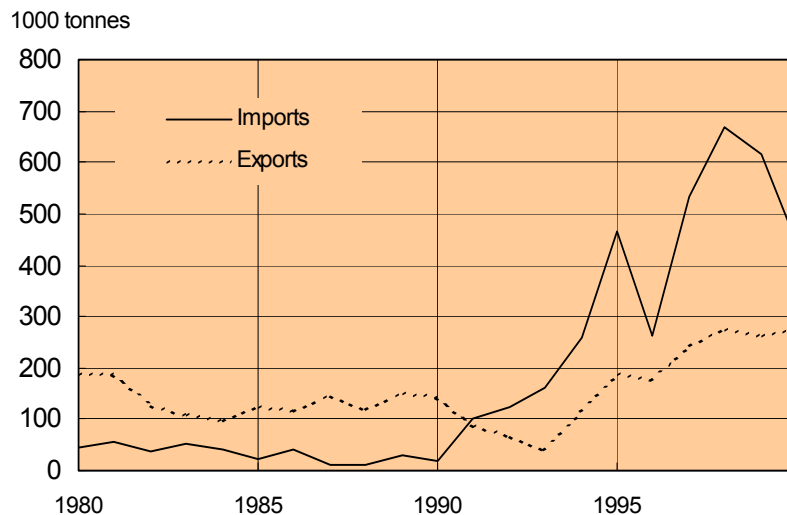


Figure 2. *Raw sugar trade of least developed countries, 1980-2000*

Source: FAO statistics

Sugar supply potential from the LDCs

The detailed analysis of incentives and benefits provided by the EBA to the LDCs in the long term is difficult at present to show due to the high level of uncertainty surrounding the future EU sugar regime. However, there are various scenarios of the possible development in the coming years.

Entire LDCs' sugar production diverted to exports to the EU⁵⁹

According to the current rules of the EBA, LDCs could import sugar for their domestic consumption in order to export their entire national production to the EU as well as divert their exports from the world market to the EU. If the entire domestic production was designated for shipment to the EU, the total exports of the LDCs might reach 2.4-2.9 million tonnes, raw value. The limiting factors would be the capacities of the export/import infrastructure.

⁵⁹ International Sugar Organization, 2002

On the export side, the LDCs will have to invest massively into new sugar export terminals with the aim of increasing the loading capacity from 643 thousand tonnes a year exported currently to the mentioned level of 2.4 to 2.9 million tonnes. On the import side, in order to cover domestic demand solely by 2009, the LDCs would have to import annually 5.4 million tonnes, raw value as against actual imports of 2.6 million tonnes in 2001. Thus, if the entire domestic production was designated for shipment to the EU, the sugar turnover of the LDCs would increase from the current level of 3.2 million tonnes to 8.3 million tonnes a year.

EBA exports and production expansion concentrate in net-exporting LDCs⁶⁰

Assuming that EBA exports will concentrate primarily in net-exporting LDCs, the list of developing producers taking advantage of the EBA will reduce to 10⁶¹. Over recent years the net-exporters have demonstrated a relatively stable growth in sugar production. Total sugar export of the 10 countries in question have also considerably increased from 299 thousand tonnes delivered to the world market in 1994 to 563 thousand tonnes estimated for 2002/03.

As a result of planned production expansions in different countries, the combined sugar output of net-exporting LDCs may increase by 1.2-1.5 million tonnes and reach 3.2-3.5 million tonnes by 2009. At the same time, the consumption in the 10 countries in question will rise to 2.2-2.3 million tonnes by 2008/09. Therefore, even retaining necessary quantities of domestically produced sugar to fully satisfy internal demand, the "net-exporting" LDCs will be able to deliver annually to the EU between 0.9-1.3 million tonnes sugar, once duty and quota-free access to the European market is finally granted. Export availability can be increased further by substituting domestically produced sugar in the local markets with imports.

⁶⁰ ISO: *ibid*, p.8

⁶¹ Net sugar exporting LDC countries: Burkina Faso, Ethiopia, Guinea, Madagascar, Malawi, Mozambique, Myanmar, Nepal, Sudan, Tanzania and Zambia.

Conclusions based on the different supply scenarios

Despite seemingly bright prospects for sugar producing, advantages to LDCs provided by the EBA initiative may be severely eroded if and when the current CAP and particularly the EU sugar regime are revised. The current regulations run to 2006, following which some modifications of the sugar regime are widely expected. A massive influx of raw sugar from developing countries would lead to an enormous pressure to reduce the EU production and price. On the other hand, lower sugar prices in Europe might make this destination less attractive for developing countries.

6. THE FUTURE OF THE SUGAR POLICY IN THE EUROPEAN UNION

There are several factors that must be taken into account in the longer term in the EU sugar sector, including increased liberalisation vis-a-vis developing countries, enlargement of the EU, and WTO negotiations. Because of high export surpluses and the low world market price for sugar, high export restitutions are required to make exports of quota sugar possible. In order to meet the WTO export subsidy commitments, it is almost certain that the EU Commission will be obliged to reduce the cost of export restitutions.

A key issue will be the extent to which LDCs can expand the productive capacity of their sugar sectors in response to the considerable incentives generated by the EBA initiative. While the LDC sugar production potential would be limited, there is movement towards extending EBA liberalisation to all ACPs under the Cotonou agreement, which foresees eventual regional free trade agreements between the EU and the ACPs. The EU opened EPA (Economic Partnership Agreement) trade negotiations with ACP countries at the end of September 2002. The timeframe for EPA negotiations is set out in the Cotonou Agreement. The Cotonou Agreement states that EPAs will enter into force by 1 January 2008. Thus, from 1 June 2009 onwards there could be free trade in sugar with about 85 developing countries. ACPs have the capacity to produce significantly more sugar than LDCs.

Against this backdrop the EU is under pressure to reform its sugar regime. Following the Uruguay Round Agreement on Agriculture (URAA), the EU is required to reduce its border protection and to limit the quantity of subsidised sugar export. In addition, the prospective enlargements of the EU will greatly increase the potential for surplus production of sugar in the EU, and make it difficult to comply with the commitments of the URAA. Finally, the agricultural negotiations under the auspices of the WTO will probably lead to increased pressure to limit the use of export subsidies and to increased market access in general.

Scenarios of the sugar regime reform

The EBA agreement, allowing unlimited duty-free access to LDCs from 2009 onwards, makes it very attractive for these countries to export sugar to the EU at the intervention price. The EU would be forced to reduce the internal support price to limit the increase of imports from these countries. Another alternative in the reduction of the export surplus is the cutting of quotas, for example the elimination of B quotas. However, eliminating exports of B sugar by reducing the sugar quota would have only a limited impact on the total output of sugar in the EU as the production of C sugar is being exported at the world market price.⁶²

If instead the export of B sugar is eliminated through reductions in the guaranteed prices of sugar beet, this will have a significant effect on the production of sugar in the EU. According to analysis (Frandsen, S.E., H.G. Jensen, W.Yu and a. Walter-Jørgensen, 2001), a 25 per cent reduction in border protection will reduce the overall production of sugar by nearly 19 per cent, consumption will increase, and the production A and B sugar will no longer cover the European domestic demand for sugar.⁶³ Production would fall most in high-cost areas, notably in Greece, Finland (-85%) and Italy, where production of sugar beet would more or less cease.

If combined forces from both within the EU (enlargement) and external agreements (WTO; EBA, EPA) require adjustments that are not possible within the current policy framework, then this will force the EU to consider fundamental reform of the sugar regime. This might be the abolition of the quota system and intervention price. This will require compensation via area payments, in turn putting pressure on the agricultural budget of the EU.

It seems almost inevitable that the sugar sector will become less protected and more competitive after 2006, most likely with some lowering of the internal sugar prices.

⁶² Danish Research Institute of Food Economics, 2002

⁶³ Danish Research Institute of Food Economics: *ibid*, p.2

EU options for future reform of sugar policy

As a part of the new regime in 2001/2002, the Commission ordered studies of the sugar sector to aid the EU in devising a post 2005/2006 regime. Once the studies are finished, most likely at the beginning of 2003, discussion can begin on a new reform.

As part of the analysis of sugar policy reform options, the Commission launched a tender for a "Study to Assess the Impact of Options for the Future Reform of the Sugar Common Market Organisation" (EU, Agriculture DG-A2, July 2001). The tender covers a wide range of six illustrative reforms for the five-year period 2006/07 to 2011/12. The starting point or reference scenario is a continuation of the current policy, including the preferential import arrangements (ACP&EBA).

Options to be examined are:

- Option 1: Stepwise reductions in quotas
 - necessary to allow the progressive phasing out of subsidised exports
- Option 2: Stepwise cut in support prices
 - progressive phasing out of export refunds
- Option 3: "Agenda 2000-like"
 - A one-off cut in support prices, with partial compensation
- Option 4: A combination of both quota and price reductions, with partial compensation
 - combination of option 1 and option 2, together with partial compensation
- Option 5: Stepwise suppression of quotas, combined with partial compensation -inclusion of sugar-beet in the arable crops system, including set aside
- Option 6: Full Liberalisation of the Sugar Regime
 - absence of all Community intervention

The impact assessment is to take into account a range of policy issues affecting the four main groups of stakeholders (EU sugar beet and cane growers, EU beet and cane processing and refining industry, EU industrial and final consumers, third countries including applicant and developing countries) as well as the impact on the EU budget.

Timeframe of regime reform

The EU's agricultural policy is divided into financial periods. The first period after Finland's membership was from 1995 to 2000. The present financial period extends to 2006. Thus, there will very likely be no major changes in the sugar policy before 2006. However, there will be a mid-term review of the system based on a Commission report in 2003. This mid-term review seems likely to propose quite large changes in supports.

One of these changes is the decoupling of the EU's CAP support from production. How large these changes are going to be and when they are going to be executed is not yet possible to say. However, these changes will certainly have some effect on sugar policy. If decoupling is performed, the question remains whether sugar will be part of it. It is very unlikely that large intervention price systems will be maintained just for sugar. Another factor that causes uncertainty over the support policy is the EU's expansion to the east. This may produce great pressure to alter supports.

In following are presented two alternative scenarios. These scenarios describe the possible impacts of two opposing choices. One possible scenario could be that decoupling is performed so that sugar fields are also a part of it, but the sugar intervention price still remains. In this case, sugar beet production will most likely multiply and overproduction will increase. On the other hand if decoupling is performed and the intervention price is abolished together with the increased import of sugar under the EBA treaty from least developed countries, it will result in convergence of the EU market price and the world market price for sugar. This lowered market price for sugar will affect sugar beet production, which will decrease considerably. This decrease will have a strong effect on Finnish sugar beet production, because sugar beet farmers in Finland have the lowest yield per hectare and the annual variation in the yield is the greatest in Europe.

7. THE SUGAR POLICY IN FINLAND AND ITS IMPACT ON FUTURE AGRICULTURAL, REGIONAL AND INDUSTRIAL DEVELOPMENT

EU membership and agricultural policy reform

Since becoming a member of the European Union in 1995, Finland's sugar policy has been tightly bound to the EU's sugar policy. After 1995, the national agricultural policy and protected markets were replaced by the Common Agricultural Policy and the EU internal market. International competition on the agricultural and food markets increased, which resulted in a dramatic fall in farm level producer prices. A direct impact of the change was that support systems had to be reorganised. Since the reorganisation, Finnish agricultural support measures have been based on the Common Agricultural Policy (CAP) of the EU.

In Finland, support accounts for a larger percentage of a farmer's income than in the other EU Member States. Subsidies are crucial for Finnish farmers, because the harsh natural conditions keep productivity well below the EU average.

Storage compensation exception for Finland

The EU sugar policy has been under pressure during the last few years. However, there have been no major reforms of the sugar regime, although reformulation may take place in the next two or three years.

One of the major changes in the sugar regime from 1995 to 2000 and from 2001 to 2006 has been the abolition of the storage compensation system (carryover support). In June 2001, the Agriculture Council decided to abolish the storage compensation system, but Finland was authorised to apply national aid for the storage of sugar subject to certain restrictions. This storage compensation support system is very important to Finland because the sugar beet yield per hectare is the lowest and the annual variation in yield is one of the largest in Europe.

As a result of the carryover support, Finland has been able to utilise almost 100 per cent of its national production and support quota almost every year since becoming an EU member (Table 22).

Table 22. *Finland's utilisation rate for production and support quotas*

	Quota	1995	1996	1997	1998	1999	2000
	Mill. kg	%	%	%	%	%	%
Crop production							
Oilseed area, 1 000 ha	63.0	127	93	99	98	95	84
Sugar quota (A+B)	146.8	100	93	100	86	100	100
Starch quota, mill. Kg	54.8	100	100	100	84	92	101

Source: Information Centre of the Ministry of Agriculture and Forestry

A short history of sugar production in Finland

There has been the continuous beet sugar production in Finland since the beginning of the 1920s. In fact, the processing of sugar beet by Suomen Raakasokeritehdas started in Salo in February 1920.⁶⁴

After the Second World War, a number of new sugar processing factories were founded in Finland. One processing factory opened in Turenki in 1948, a raw sugar plant started processing in Kotka in 1953, and quite soon after that factories also opened in Naantali and Säkylä.⁶⁵

Sugar refineries for imported raw sugar were also built in Vaasa and in Kantvik, situated in Kirkkonummi. At that time the main aim of Finnish sugar production was to increase sugar self-sufficiency. Since the end of 1970s, sugar self-sufficiency has been around 70 per cent of the total domestic consumption. The rest of the consumption demand in Finland has been supplied by processing imported raw cane sugar to white sugar at the sugar refinery in Kantvik.

Sugar production has been strictly regulated over the years. Nowadays, sugar beet growers and the sugar industry have mutual contracts for growing beet, so-called sugar sector agreements. A close working relationship exists between the industry and the growers who supply the beet in Finland.

⁶⁴ Kurri, 2001

⁶⁵ Kurri, *ibid*, p. 6

Development of sugar production in Finland

On account of the sugar self-sufficiency policy, production increased during the years following the war. The growing area for sugar production increased almost threefold from 1950 to 1980. From the 1980 up to the beginning of the new century, the growing area for sugar has varied around 30 000 hectares.

Since the last reform of the EU sugar policy, the total quota for Finnish sugar production has been 146 086.6 tonnes of beet sugar. The quota was cut by about 689 tonnes from 1.7. 2001 onwards.

This quota of about 146 000 tonnes of white equivalent sugar means around 1.1 million tonnes of the beet production, but depending on factors such as the sugar content of beet in a certain year this figure varies from year to year. The total production of sugar beet has varied between 0.9 and 1.2 million tonnes during the last two decades.

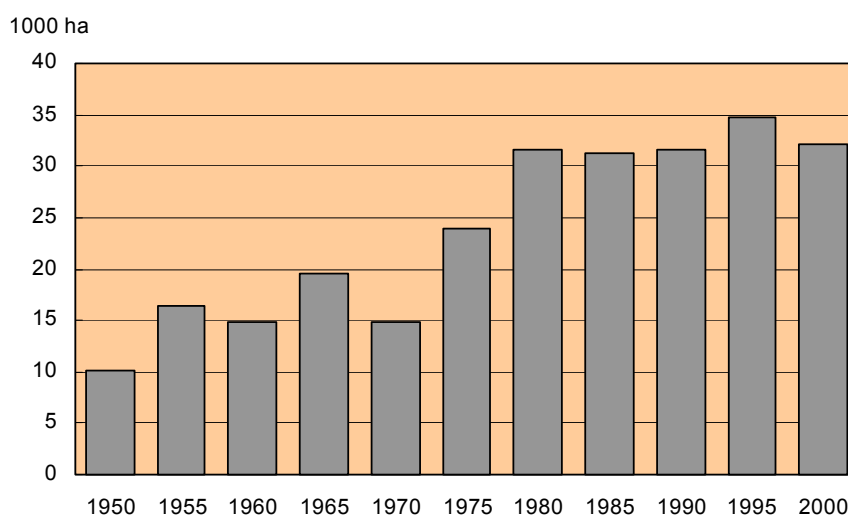


Figure 3. The production area of sugar in Finland from 1950 to 2000, 1000 ha. Source: Statistics Finland

Table 23. The Finnish sugar quotas from 1.7. 2001

A-sugar from beet	132 806.2 tonnes
B-sugar from beet	13 280.4 tonnes
Total quota	146 086.6 tonnes

In 2000 the total cultivated land area in Finland was 2 million hectares, while the area under sugar beet was 32 178 hectares. Sugar beet fields account for 1.6 per cent of Finland's cultivated area. In 2000 there were about 2 700 sugar beet producers in Finland and the average beet producing area was 11.5 hectares per farm. At this time there were about 79 000 farms in Finland, so sugar beet growing farms accounted more than 3.5 per cent of the total.

The yield of sugar is quite dependent on the weather. The production per hectare in Finland varied between 25 and 40 tonnes per hectare in the 1990s. In a typical year the yield varies around 33 tonnes per hectare. According to production statistics there has been one exceptionally good and two or three weak production years during the last decade.

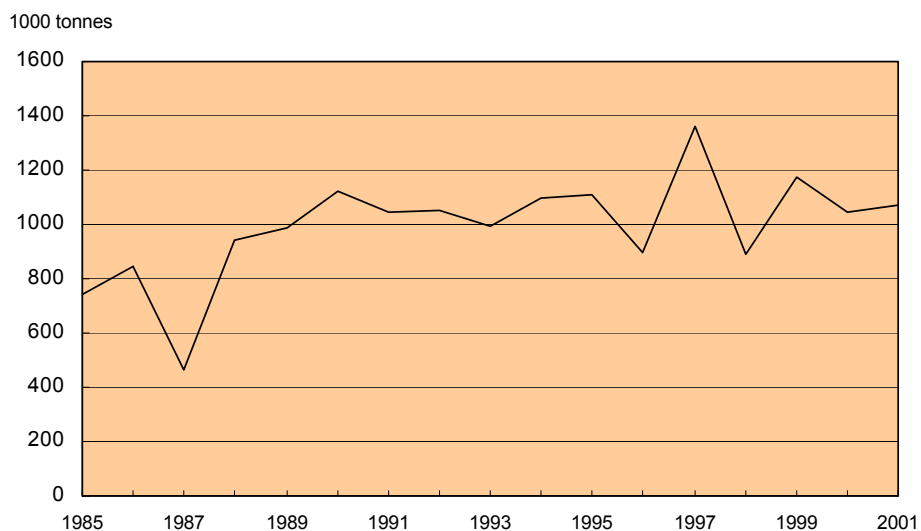


Figure 4. *The total production of sugar beet in Finland, 1000 tonnes*
Source Statistics Finland

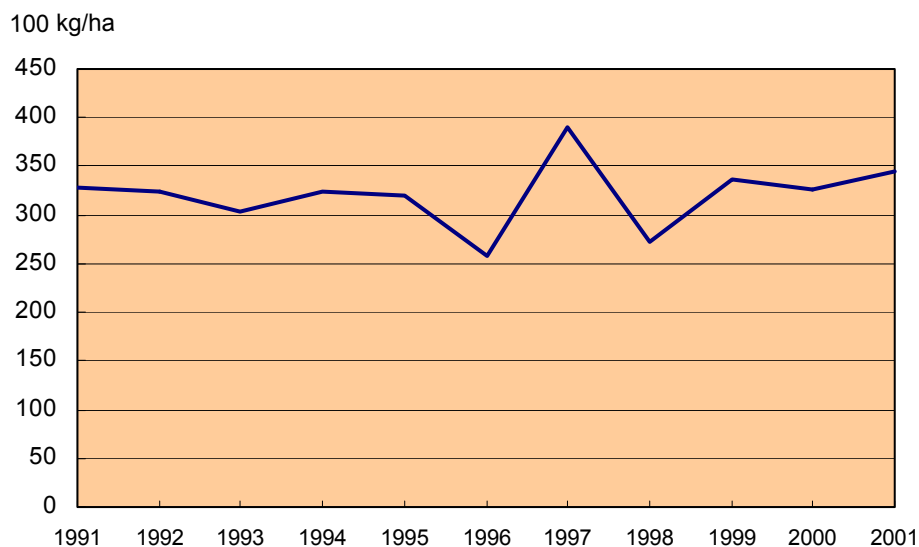


Figure 5. *The yield of sugar production in Finland from 1991 to 2001, 100kg/ha*

Source: Statistics Finland

The overall sugar production also depends on the sugar content of sugar beets in different years and its extractability during sugar processing. Altogether, the extractable sugar yield varied around 4 500 kg per hectare in the 1990s, which is one of the lowest among the EU producing countries.

Geographical location of sugar beet production in Finland

Sugar beet production is concentrated in the southern part of Finland. The majority of sugar beet is produced in the A or B support areas. The regional distribution of production is illustrated in Figure 6, in which the geographical distribution of sugar beet production is divided according to the Employment and Economic Development centres in Finland.

As shown in Figure 6, sugar beet production is highly concentrated in Finland, with three main Employment and Economic Development centres responsible for approximately 80 per cent of the total harvest area of sugar beet.

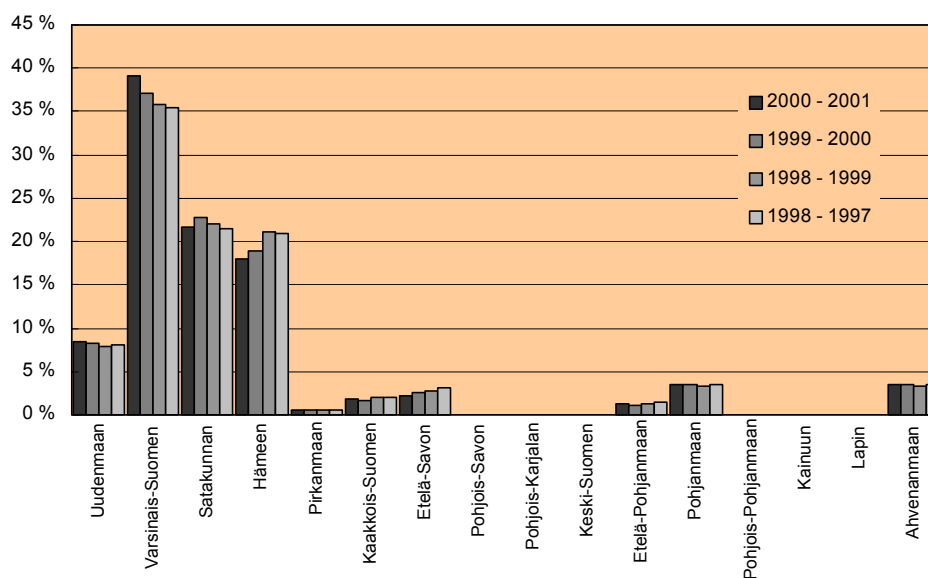


Figure 6. *Regional distribution of sugar beet production in Finland*

Source: Information Centre of the Ministry of Agriculture and Forestry

Figure 7 illustrates the relative proportion of the cultivated land in Finland under sugar beet production and the percentage of farms that produce sugar beet. While the proportion of sugar beet producing farms is more than a tenth of total number of farms in some Employment and Economic Development centres, the sugar beet producing area is far below ten per cent of the total area under cultivation in the different Employment and Economic Development centres.

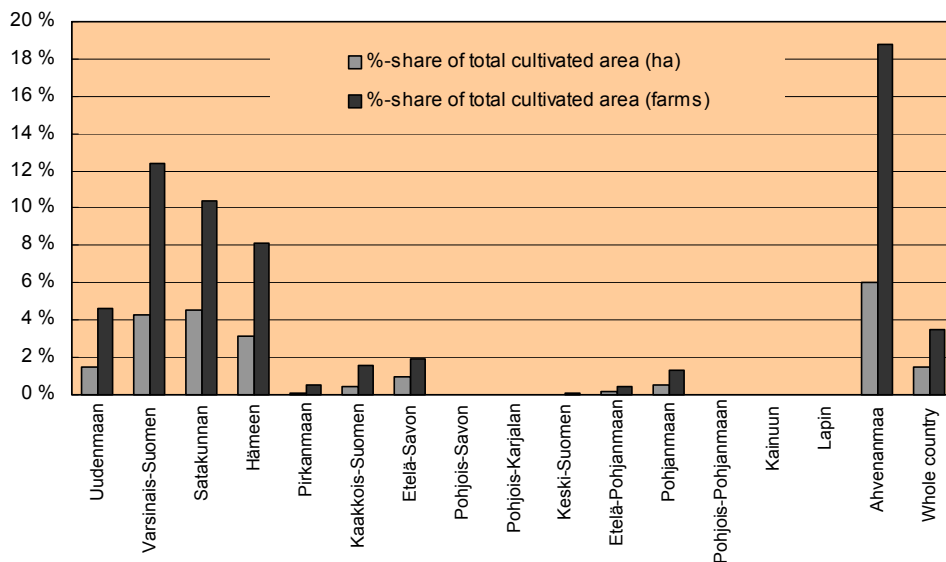


Figure 7. Proportion of sugar beet producing farms and of cultivated land under sugar beet production in Finland

Source: Information Centre of the Ministry of Agriculture and Forestry

Agricultural incomes from sugar beet production

Approximately 2 700 farmers have contracts with the sugar industry in Finland to provide a little over 1 million tonnes of sugar beet, which is grown on about 31 000 hectares. Two factories, in Salo and in Säkylä, produce about 150 000 tonnes of white sugar each year from beet.

The total earnings of the growers from beet varied around 50-60 million euros per year during the 1990s. The total income from sugar beet production has been about 1.5 per cent of the total agricultural value produced in Finland. Around 31 000 hectares has been under the sugar beet production, equalling about 1 500 – 1 900 euros in gross income per hectare.

Table 24. *Value of sugar production and its share of the total value of agricultural production in Finland*

Year	Value of sugar Million euro	Share of the total %
1994	83.7	1.7
1995	56.5	1.4
1996	52.1	1.4
1997	60.3	1.6
1998	47.0	1.5
1999	57.8	1.6
2000	56.8	1.5
2001	53.2	1.4

Source: Pellervo Economic Research Institute, 2002

Sugar beet is commonly grown in rotation with wheat, barley or pulses. Sugar beet provides a valuable break crop, returning organic matter to the soil and preventing the build up of disease.

Sugar beet has been one of the most profitable arable crops in Finland. The gross income per hectare has been higher than that for most cereals or other arable crops. The gross income per hectare from sugar production in the sugar producing regions in Finland is clearly higher than that from wheat production when the various agricultural subsidies are taken into account.

According to an initial rough estimate, if sugar production were replaced by other arable crops because of sugar policy reform, the annual net income loss from agriculture production in the short term could be around 20-25 million euros. In the long term, the net income loss would be approximately 10-15 million euros per year.

Production costs of beet

According to the calculations of the Agricultural Economics Research Institutes, the production costs of sugar beet are also higher than those for bread grains or oil plants, which could be alternative agricultural products in the regions under recent beet production in Finland. The difference in costs could be about 50-70 percent.

Table 25. *Distribution of beet production costs in farm models according to size*

Cost components		Farm models			
		40 ha	80 ha	120 ha	160 ha
- inputs	%	29.9	34.3	38.5	41.0
- labour	%	12.8	9.5	9.2	7.6
- overheads	%	6.7	6.0	5.5	5.5
- capital	%	50.5	50.1	46.8	45.9

Source: Ala-Mantila & Riepponen, 1998

Beet production is quite capital intensive, with special machines for sowing and harvesting. According to a calculation based on farm models, the share of the capital costs of beet production varies around 50 percent.⁶⁶

Sugar beet farming and sugar production are also important for Finnish livestock production. Pulp are used to feed livestock and leaf is used to fertilise sugar beet fields.

Changes in the company structure of the sugar industry in Finland

In the last twenty years, the sugar producing industry in Finland has come into the hands of a steadily diminishing number of companies. In 1980, sugar factories in Naantali, Salo and Turenki were merged with Suomen Sokeri.

In 1985, Suomen Sokeri bought the remaining half of Suomen Nestesokeri. In 1989 the Naantali factory was closed down and Suomen Sokeri changed its name to Cultor. Cultor and Alko established Neson, which included Cultor's Jokioinen factory and Alko's Rajamäki starch sweetener production. Cultor sold Neson under its subsidiary Sucros.

Lännen Tehtaat also owns a 20 per cent share of Sucros. In 1990, Sucros bought the sugar business activity from Lännen Tehtaat, and eight

⁶⁶ The Agricultural Economics Research Institute has calculated the production costs of the major agricultural products since the 1970s. The calculations are based on so-called the farm models. These farm models are constructed partly on the basis of information compiled from bookkeeping farms and on the basis of various standards and recommendations.
Ala-Mantila & Riepponen, 1998

years later, in 1998, Sucros closed down the Turenki factory. A year after that, Danisco and Cultor merged. In 2000 Alko pulled out of Neson, and in 2001 Neson merged with Suomen Sokeri.⁶⁷

At present the Finnish sugar industry is controlled by one company, Sucros, which is owned by the Finnish company Lännen Tehtaat and the Danish company Danisco. Lännen Tehtaat owns a 20 per cent share while Danisco owns the remaining 80 per cent of Sucros. Sucros also has 100 per cent ownership of a subsidiary, Suomen Sokeri.

Sucros has two factories for producing sugar from sugar beet, one located in Salo and the other in Säkylä. Both the Salo and Säkylä factories have a slicing capacity of 7 000 tonnes of sugar beet per day.⁶⁸

Sucros Group also has third plant in Kirkkonummi, where raw cane sugar imported under the preferential trade agreement with the EU is refined. The Kirkkonummi factory also packs the sugar produced in Finland. It has a refining capacity of 650 tonnes of raw sugar per day. The subsidiary Suomen Sokeri has one factory in Jokioinen which produces starch-based sweeteners and syrups.

Lännen Tehtaat handles the sugar retail sale in Finland while Sucros concentrates on business sales. Lännen Tehtaat also provides sugar beets from the Säkylä factory area to Sucros as a subcontractor.

After a few years of concentration there are now three separate places where sugar refining takes place in Finland: factories in Salo and Säkylä for producing white sugar and a refinery for imported raw sugar in Kantvik, Kirkkonummi. Despite the reducing number of factories, the total value of sugar production remained almost constant throughout the 1990s. The total value of manufactured sugar ex-factories was about 240 million euros in 2000.

Employment in the sugar industry in Finland

The structural concentration of the Finnish sugar industry and the increase in the productivity of sugar factories has been the main cause behind the reduction in employment in the sugar industry during recent years. At the beginning of the 1990s the total workforce was over 1 000 people; now this number is under 300.

⁶⁷ www.suomensokeri.com/historia.htm

⁶⁸ Danisco Sugar Annual Report 2000/2001

Table 26. *Number of work places in sugar factories and refineries in Finland*

Year	Personnel
1995	741
1996	665
1997	579
1998	555
1999	266
2000	262

Source: Yearbook of Farm Statistics, Information Centre of the Ministry of Agriculture and Forestry

Production, consumption and self-sufficiency

Finland is not self-sufficient in the sugar market. Domestic consumption exceeds domestic production and Finland is a net importer of refined sugar. The average deficit has been about 40 000 tonnes per year in last ten years. Finnish sugar production and national utilisation are illustrated in Figure 8. Domestic sugar utilisation has remained relatively constant in last ten years, while domestic sugar production has fluctuated more. However production has remained below consumption throughout the period under study.

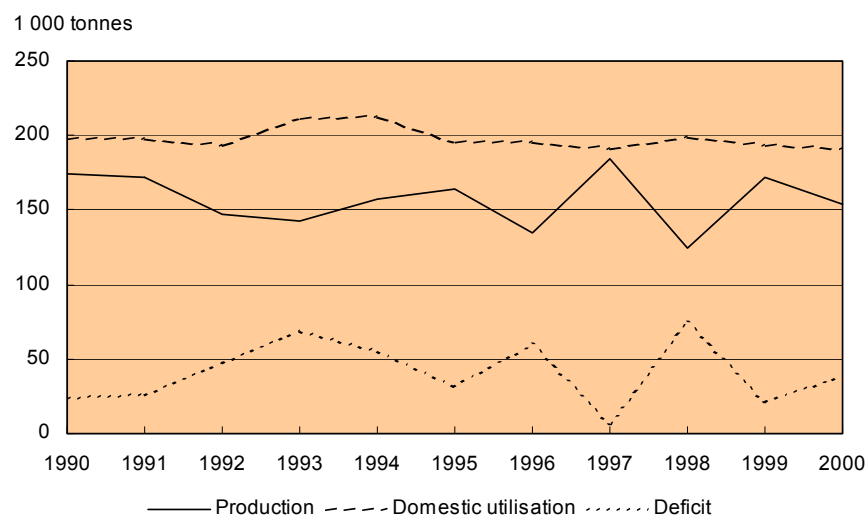


Figure 8. *Finnish sugar production and utilisation*

Source: Information Centre of the Ministry of Agriculture and Forestry:
Balance Sheet for Food Commodities

The future of the sugar industry in Finland

The future of the Finnish sugar industry depends very much on the future agricultural policy of the EU and Finland. Support is crucial to Finnish sugar beet producers and local raw material is crucial to the Finnish sugar beet refining industry. However, the Finnish sugar industry is not entirely dependent on sugar beet. Danisco already produces all the raw sugar that it imports under preferential terms in Kirkkonummi refinery,⁶⁹ where refining could be continued regardless of the changes in beet production in Finland.

⁶⁹ Danisco Sugar Annual Report 2000/2001

SOURCES

Agra Europe, March 9, 2001

Ala-Mantila, Ossi, Leena Riepponen: Maatalouden tuotantokustannukset Suomessa, Maatalouden taloudellinen tutkimuslaitos, Tutkimuksia 222, 1998

Articles 72, 72a and 72b of Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code, as amended by COMMISSION REGULATION (EC) No 1602/2000 of 24 July 2000, Official Journal L 188 of 26.7.2000, p.1.

Council Regulation 1260/2001 of June 19, 2001, Official Journal L 178

Danisco Sugar Annual Report 2000/2001

Danish Research Institute of Food Economics: The Byzantine EU Sugar Regime, Policy Brief 2, January 2002

Economic Research Service/USDA, EU Preferential Trading Agreements: Heightened Competition for U.S., Agricultural Outlook/December 2001, Economic Research Service/USDA

Erandsen, Sören E., Hans G. Jensen, Wusheng Yu and Aage Walter-Jørgensen: Modelling the EU sugar policy – A preliminary study of policy reform scenarios, 77th EAAE Seminar/NJF Seminar No.325, August 17-18, 2001, Helsinki

EU Commission: Possible Impacts on the Agricultural Sector, 2001-05-06

FAO Statistics

Gudoshnikov, Sergei: World Sugar Market, F.O. Licht's 5th International Sugar and Sweeteners Conference, Sugar 2000 – CAXAP 2000, Moscow, Russia, 22-23 June 2000

Hannah, A.C.: The World Sugar Market and Reform, in Prosi Magazine, January 1998

Hazeleger, Barend: EU Sugar Policy, assessment of current impact and future reform, commissioned by NOVIB, Agrapen, 2001

Information Centre of the Ministry of Agriculture and Forestry

International Sugar Organisation (ISO) 2002a: Key Drivers of the World Sugar Market, May 2002

ISO reproduced from S. Haley: "US and world sugar and HFCS production costs 1994/95-1998/99",

ISO Year Book 2001

International Sugar Organization (ISO). 2002b: Everything But Arms Initiative (EBA): Implications for the World Sugar Market, MECA(02)18, 11 November 2002

Koo, Won W. and Richard D. Taylor, 2001 Outlook of the U.S. and World Sugar Markets; Agribusiness & Applied Economic Report No. 462, September 2001, Center for Agricultural Policy and Applied Economics Agricultural Experiment Station, North Dakota State University, Fargo

Kurri, Pekka: Käyntikausitiedote 2001, Lännen Tehtaat Oyj, Maatalousosasto, 2001

NEI, Evaluation of the Common Organisation of the Markets in the Sugar Sector, September, 2000

Oxfam: The Great EU Sugar Scam, Oxfam Briefing Paper 27, 2002

OECD: Sugar Policy Reform, Group on Cereals, Animal Feeds and Sugar, AGR/CA/APM/CFS(2000)4, 1999

Pellervo Economic Research Institute. 2002. PTT Review, Forecast 3/2002, background statistics.

Rabobank International: Reform of the EU sugar policy regime – if, when, how?, March 2002

Revelt, Mary: European Union Sugar, Annual 2002, USDA

Schedule CXL: European Communities, Part IV Agricultural Products

Sugar and Sweetener Situation & Outlook, September 2001, ERS/USDA

UNCTAD: Handbook on the GSP scheme of the European Community

UNCTAD, Monthly commodity price bulletin

USDA: European Union Sugar Annual 2002, GAIN Report 4/10/2002

www.Europa: Bilateral Trade Relations, ACP Countries (77), July 2001

www.suomensokeri.com/historia.htm

Yearbook of Farm Statistics, Information Centre of the Ministry of Agriculture
and Forestry

ANNEX. SUGAR TRADE IN LEAST DEVELOPED, ASEAN AND SAARC COUNTRIES

In last ten years, least developed countries have been net sugar importers, and the trend in the last few years has been for constantly increasing import of both raw and refined sugar.

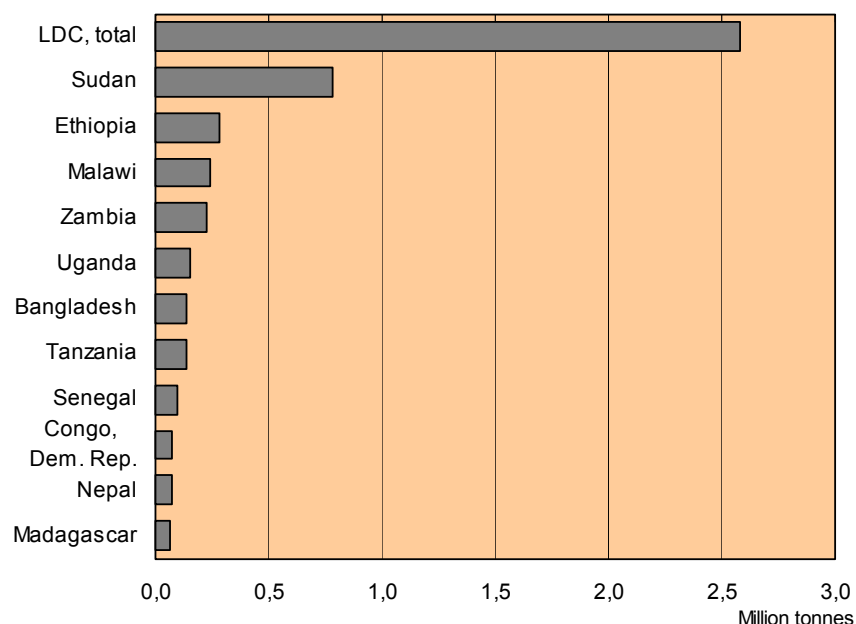


Figure 1. *Sugar (raw) production of least developed countries 1980-1999*

Source: FAO statistics

ASEAN countries have been net exporters of both raw and refined sugar, but in the last few years they have also become net importers. However, Thailand is by way of exception a major exporter of both raw and refined sugar.

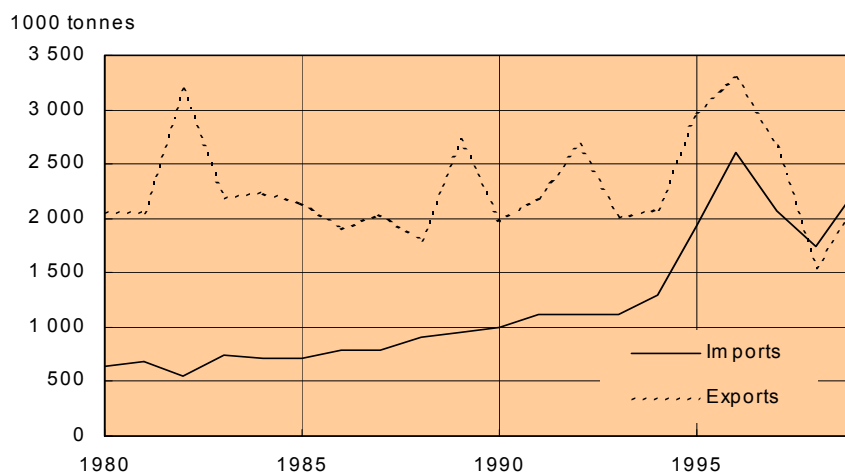


Figure 2. *Raw sugar trade of ASEAN –countries, excluding Myanmar, 1980-1999*

Source: FAO statistics

A closer examination of the raw sugar import of ASEAN countries shows that Malaysia is the main importer in this country group. Others are Indonesia, Philippines, Singapore and Vietnam. In 1990, Malaysia was responsible for almost the whole import of ASEAN countries. Within nine years, Malaysia's share has dropped to 51 per cent of the ASEAN import. Indonesia has increased raw sugar import dramatically. In 1999, Indonesia's import was almost thirty-times as great as it was in 1990. Countries that had no foreign trade in raw or refined sugar in 1990, 1995 and 1999 are not mentioned in tables. All countries listed in tables thus have at least some level of raw or refined sugar trade.

Table 1. *Import of raw sugar in ASEAN countries, excluding Myanmar*

Raw sugar import of ASEAN –countries, excluding Myanmar			
Quantity in 1 000 tonnes	1990	1995	1999
Brunei Darussalam	0	0	6.8
Indonesia	22.0	333.7	614.0
Malaysia	814.6	1 033.1	1 157.9
Philippines	0	235.8	249.7
Singapore	141.8	182.3	179.9
Thailand	0	0	0
Vietnam	20.0	145.5	43
ASEAN excluding Myanmar	998.5	1 930.4	2 251.3

Source: FAO statistics

While Malaysia was responsible for almost the entire import of ASEAN raw sugar, Thailand holds the same position for exports. Thailand has had about a 90 per cent share of ASEAN raw sugar export in the last ten years. In general, there have been only two countries that have exported more than 100 000 tonnes per year in the whole 1990s.

Table 2. *Export of raw sugar in ASEAN –countries, excluding Myanmar*

Raw sugar export of ASEAN –countries, excluding Myanmar			
Quantity in 1 000 tonnes	1990	1995	1999
Brunei Darussalam	0	0	0
Indonesia	0	0.1	0.1
Malaysia	0	0	0
Philippines	245.1	153.8	142.8
Singapore	0.2	0.5	0.1
Thailand	1 730.8	2 800.6	1 997.6
Vietnam	0	24	0
ASEAN excluding Myanmar	1 976	2 979.1	2 140.7

Source: FAO statistics

The import of refined sugar in ASEAN countries is much more evenly distributed. The only major importer is Indonesia, with a three-quarters share. Again, it is noticeable that Indonesia increased its refined sugar import to more than six times the origin import between 1990 and 1999.

While Malaysia is a major raw sugar importer, it is also an important exporter of refined sugar. Other refined sugar exporters in the ASEAN group are Thailand and Singapore. Thailand is a major exporter of both raw and refined sugar, while it imports no raw or refined sugar at all.

Table 3. *Import of refined sugar in ASEAN countries, excluding Myanmar*

Refined sugar import in ASEAN –countries, excluding Myanmar			
Quantity in 1 000 tonnes	1990	1995	1999
Brunei Darussalam	10	6.5	0
Cambodia	4.6	22	152
Indonesia	259	220.7	1 573.1
Laos	10.5	12.3	4.2
Malaysia	0.1	0	0
Philippines	1.2	129.8	135.4
Singapore	61.1	81.9	166.5
Thailand	0	0	0
Vietnam	23.8	145.5	43.1
ASEAN excluding Myanmar	370.3	618.7	2 074.3

Source: FAO statistics

Table 4. *Export of refined sugar of ASEAN countries, excluding Myanmar*

Refined sugar export of ASEAN –countries, excluding Myanmar			
Quantity in 1 000 tonnes	1990	1995	1999
Brunei Darussalam	0	0	0
Indonesia	0.1	0	2.3
Malaysia	210.1	92.8	201.8
Philippines	2.2	0	0
Singapore	37.9	19.9	39
Thailand	639.7	958.6	1 271.7
Vietnam	20.9	0	0
ASEAN excluding Myanmar	910.9	1 071.3	1 514.8

Source: FAO statistics

Import of refined sugar in SAARC countries has fluctuated considerably during the last twenty years. Nevertheless, in raw sugar a clear trend of increasing net import can be found.

Tables 5 and 6 which provide the import and export of raw sugar in SAARC countries, illustrate that almost all (six out of seven countries) have at least some level of import, but only India has been able to export raw sugar. In last few years India also has been major net importer of raw sugar.

Table 5. *Import of raw sugar in SAARC countries*

Raw sugar import in SAARC countries			
Quantity in 1 000 tonnes	1990	1995	1999
Bangladesh	0.5	140.9	145.7
Bhutan	0	2.2	1.6
India	0	0	481.7
Nepal	5.5	0	40.2
Pakistan	5.5	0.2	0.5
Sri Lanka	258.3	301.2	148.4
SAARC	269.8	444.5	818.3

Source: FAO statistics

Earlier, Sri Lanka has been major raw sugar importer in SAARC countries, but in recent few years India has become the biggest raw sugar importer in SAARC. In last few years, India's export in raw sugar has diminished while raw sugar imports have increased.

Table 6. *Export of raw sugar in SAARC countries*

Raw sugar export of SAARC countries			
Quantity in 1 000 tonnes	1990	1995	1999
Bangladesh	0	0	0
Bhutan	0	0.1	0
India	24.9	108.3	9.3
Nepal	0.2	0	0
Pakistan	0	0	1.5
Sri Lanka	0	0	0
SAARC	25.1	108.5	10.8

Source: FAO statistics

All SAARC countries import refined sugar, with a clear increasing trend also apparent in India's imports. India has become a major importer of both raw and refined sugar.

Table 7. *Import of refined sugar in SAARC countries*

Refined sugar import in SAARC countries			
Quantity in 1 000 tonnes	1990	1995	1999
Bangladesh	90.4	9	5.6
Bhutan	3.6	3	1.5
India	12	150.6	699.2
Maldives	9	10.4	4.9
Nepal	23.8	17.6	15
Pakistan	211	5.2	10.1
Sri Lanka	47.1	1.2	333
SAARC	396.9	196.9	1 069.3

Source: FAO statistics

Pakistan is the only country in the SAARC group that has consistently exported refined sugar. While Pakistan has almost no import of raw or refined sugar, it has a noticeable export of refined sugar. Pakistan also has refining capacity and it refines all sugar before exporting it (Pakistan has no raw sugar export).

Table 8. *Export of refined sugar in SAARC countries*

Refined sugar export of SAARC countries			
Quantity in 1 000 tonnes	1990	1995	1999
Bangladesh	2	0	0
Bhutan	0	0	0
India	1.8	257.5	2.7
Nepal	0	0	0
Pakistan	7.7	315.9	906.6
Sri Lanka	0.3	0.1	0
SAARC	11.8	573.5	909.3

Source: FAO statistics

Pellervon taloudellisen tutkimuslaitoksen julkaisuja, publikationer, Publications

17. Aki Kangasharju. 1998. Regional Economic Differences in Finland: Variations in Income Growth and Firm Formation.
16. Pertti Kukkonen. 1997. Rahapolitiikka ja Suomen kriisi

Pellervon taloudellisen tutkimuslaitoksen raportteja, forskningsrapporter, Reports

185. Janne Huovari, Seppo Laakso, Jani Luoto ja Sari Pekkala. 2002. Asuntomarkkinoiden alueellinen ennuste
184. Panu Kallio, Juha Marttila, Meri Virolainen ja Raija Volk. 2002. Baltian maiden merkitys Suomen elintarvikealalle
183. Martti Patjas. 2002. Maatalouden tukijärjestelmien merkitys Suomessa ja EU:ssa
182. Anna-Kaisa Rämö, Ritva Toivonen, Anne Toppinen ja Päivi Mäki. 2002. The Forest Sector Development in Austria, Finland and Sweden during the 1970s to the 1990s
181. Satu Nivalainen ja Raija Volk. 2002. Väestön ikääntyminen ja hyvinvointipalvelut: Alueellinen tarkastelu
180. Perttu Pyykkönen. 2001. Maatalouden rakennemuutos eri alueilla
179. Mikko Mäkimattila, Panu Kallio ja Juha Marttila. 2001. Suomalaisen maidon liiketoimintaverkosto - hinnoittelujärjestelmien kansainvälinen vertailu
178. Kalle Laaksonen. 2001. Role of LDCs in International Agricultural and Food Trade and the WTO Negotiations
177. Martti Patjas ja Jukka-Pekka Kataja. 2001. Maatalouden kehittäminen maaseudun 5b- ja 6 -hankkeiden avulla
176. Janne Huovari, Aki Kangasharju ja Aku Alanen. 2001. Alueiden kilpailukyky

Pellervon taloudellisen tutkimuslaitoksen työpapereita, diskussionsunderlag, Working Papers

62. Luis H.R. Alvarez – Erkki Koskela. 2003. Wicksellian Theory of Forest Rotation under Interest Rate Variability
61. Erno Järvinen – Ritva Toivonen – Paavo Kaimre. 2003. The Information and Training Needs of Private Forest Owners in Estonia
60. Marko Mäki-Hakola – Ritva Toivonen: Metsäsektorin merkitys aluetalouksissa. Maakunnat vertailussa.
59. Satu Nivalainen. 2002. Maallemuuttajat – Millaisia he ovat?
58. Marko Taipale. 2002. Tuotannon ja tulojen konvergenssi Suomen maakuntien ja seutukuntien välillä
57. Pasi Holm ja Vesa Vihriälä. 2002. Matalan tuottavuuden työn tuki. Tarpeellinen keino työllisyyden parantamiseksi Suomessa
56. Perttu Pyykkönen. 2002. Regional Differences in Land Prices in Finland
55. Marko Mäki-Hakola. 2002. Cointegration of the Roundwood Markets around the Baltic Sea. An Empirical Analysis of Roundwood Markets in Finland, Estonia, Germany and Lithuania.
54. Erno Järvinen, Ritva Toivonen ja Raija-Riitta Enroth. 2002. The German Wood Product Markets. Importance of Supplier Characteristics – Prospective Consumption