EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT
Directorate G. Economic analyses and evaluation
G.5 Agricultural trade policy analysis

AGRICULTURAL COMMODITY MARKETS PAST DEVELOPMENTS

FRUITS AND VEGETABLES

An analysis of consumption, production and trade

based on statistics from
the Food and Agriculture Organisation (FAO)

17 July 2007

AGRICULTURAL COMMODITY MARKETS - PAST DEVELOPMENTS

Fruits and vegetables

Fruit and vegetable production and consumption have grown significantly since 1980. However, most of the growth took place in one country (China) while consumption per capita is under the minimum recommendations in many countries. World trade in fruits is expanding due to improved marketing and transportation/storage technologies and growing demand for variety F&V all year round, as well as changing consumer habits.
The study below is based on the data from FAOSTAT[1] and Comext (EU trade data).

The fruit and vegetable sector worldwide

Over the last quarter of a century (1980-2004), the fruit and vegetable market has been one of the fastest growing of all agricultural markets.

Evolution of world fruit and vegetable markets (mio mt)

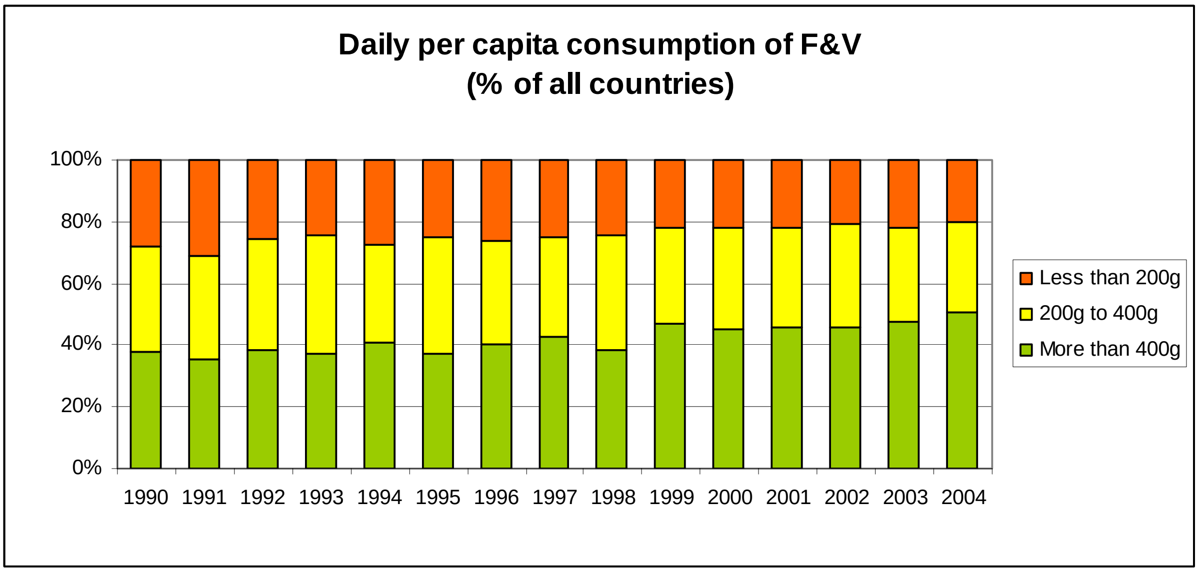
3 year average	Production	Consumption
1982/84	691	-
1992/94	899	782
2002/04	1342	1189

Global **fruit and vegetables consumption** increased by an average of 4,5% per annum (p.a) between 1990 and 2004.

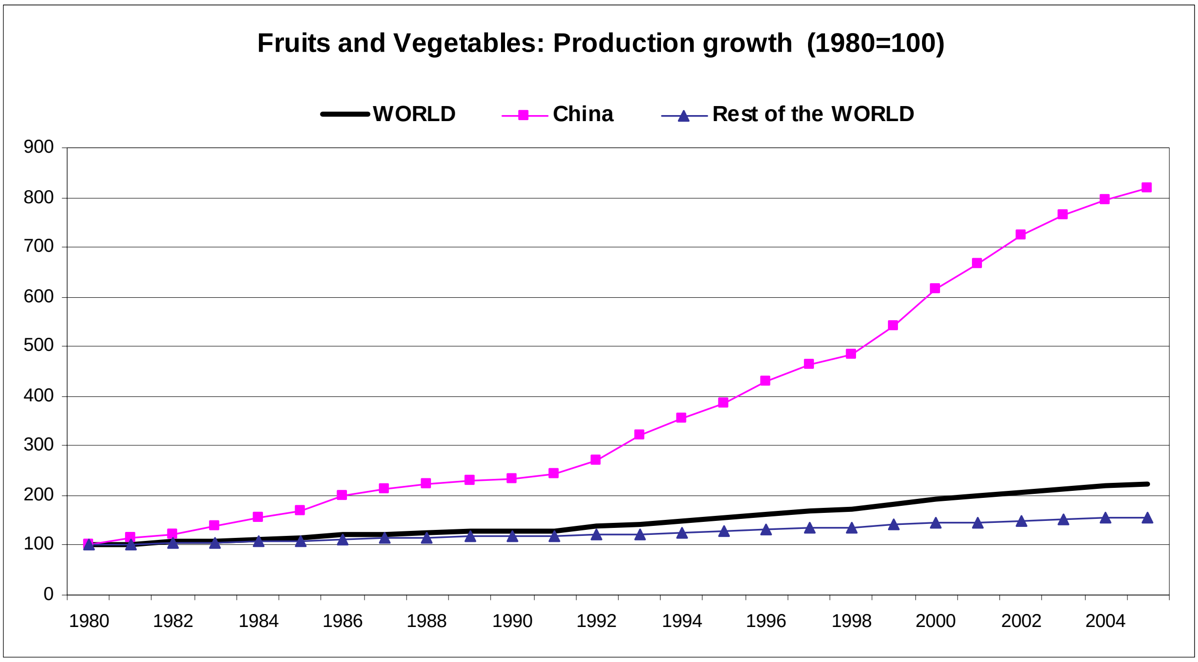
This was higher than the world population growth rate, meaning that the global **per capita consumption** of fruit and vegetables has also increased.

According to World Health Organisation, for the prevention of chronic diseases such as heart diseases, cancer, diabetes and obesity, fruit and vegetable consumption should be at least 400g per day per capita[2]. If in 1992-94 only 40% of the countries reached this level, almost half of them did so in 2002-2004.

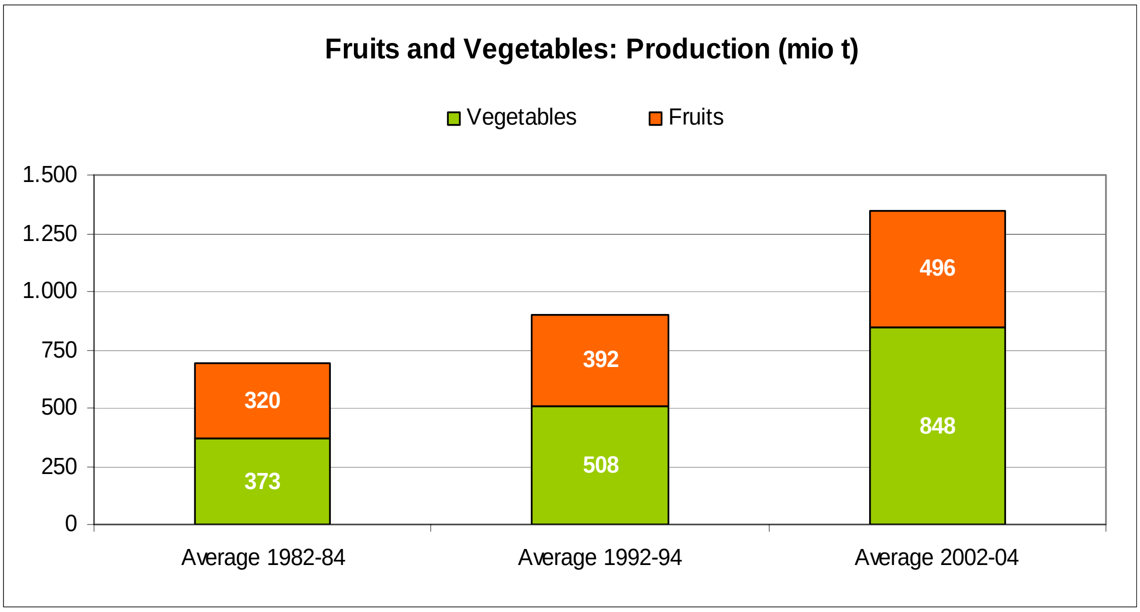
[1] http://faostat.fao.org (2007.03-07)
[2] http://www.who.int/dietphysicalactivity/media/en/gsfs_fv.pdf



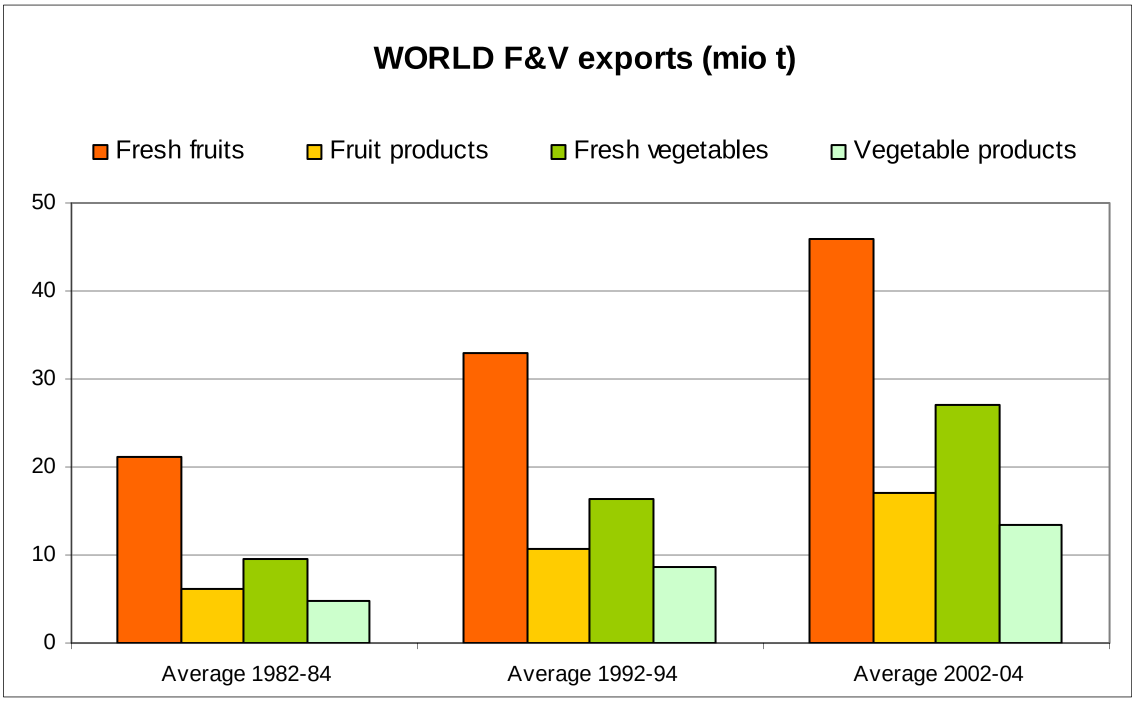
China stands behind the impressive growth of the F&V sector. **Production** there increased from an average of 88 mio t in 1982-84 to 486 mio t two decades later, accounting for a massive 61% of the world's total F&V production growth in that period.
Without China, world's F&V production growth drops from 94% to just 42% in the last two decades.



Global production has mirrored the consumption growth. Production of fruit and vegetables totalled roughly 1.35 bio t in 2002-04, of which 0.5 bio t fruits and 0.85 bio t vegetables. The average yearly growth of vegetables (4.2% p.a.) was almost double that of fruits (2.2% p.a.) during 1980-2004.

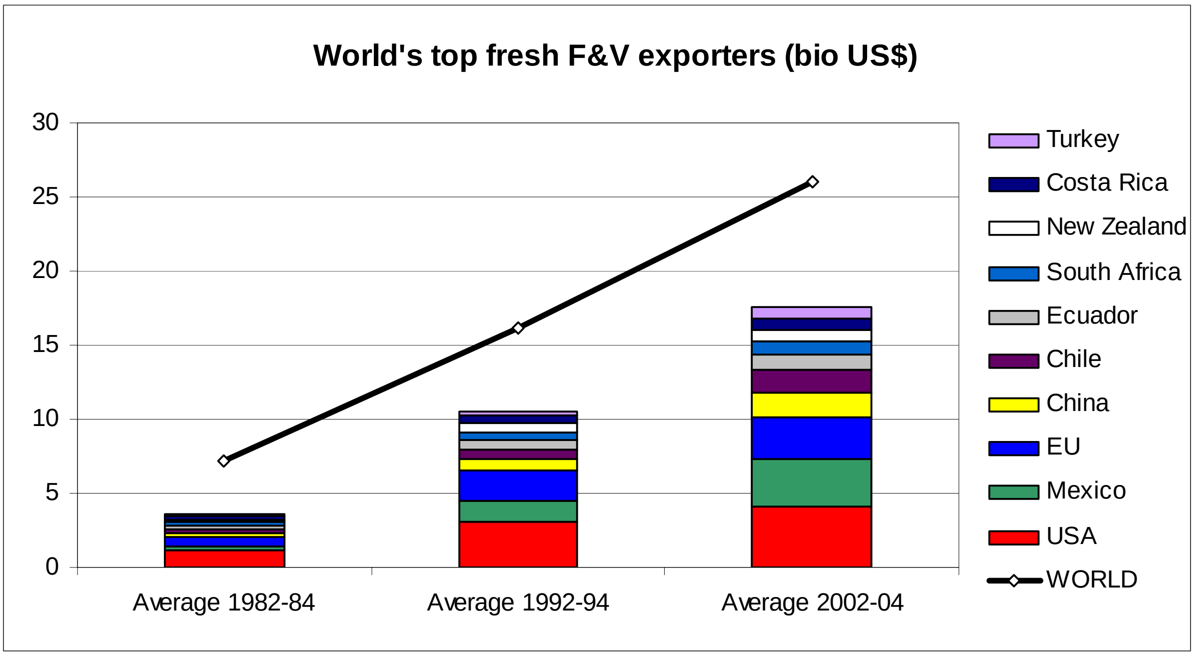


The quantity of fruit and vegetables **traded as fresh products** (including EU intra-trade) is more than 5% of the total production, with fruit exports heading for the 10% mark, while the trade in vegetables stagnates around 3%. In 2002-04, exports of fresh fruit and vegetables averaged 73 mio t, whereas exports of F&V products (e.g. juices, dried, preserved and prepared products) amounted to 30 mio t.

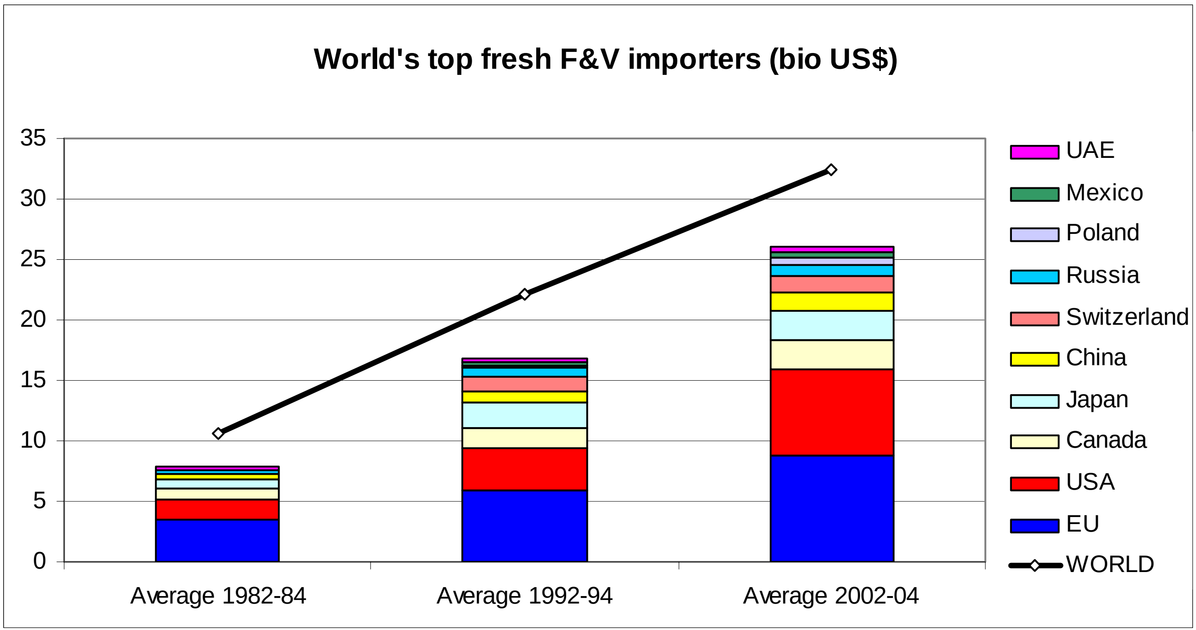


The figures and the graph above include the internal trade between EU member states. Actually, this trade accounts for roughly 40% of the world trade in fresh fruits and vegetables. In the remaining part of this report intra EU trade is however excluded. This means that EU data will only concern trade with third countries. Except otherwise specified, figures are for the EU as it stood during the indicated years (respectively EU 10, 12, 15). As the latest available data were for 2004, they do not reflect the latest enlargements.

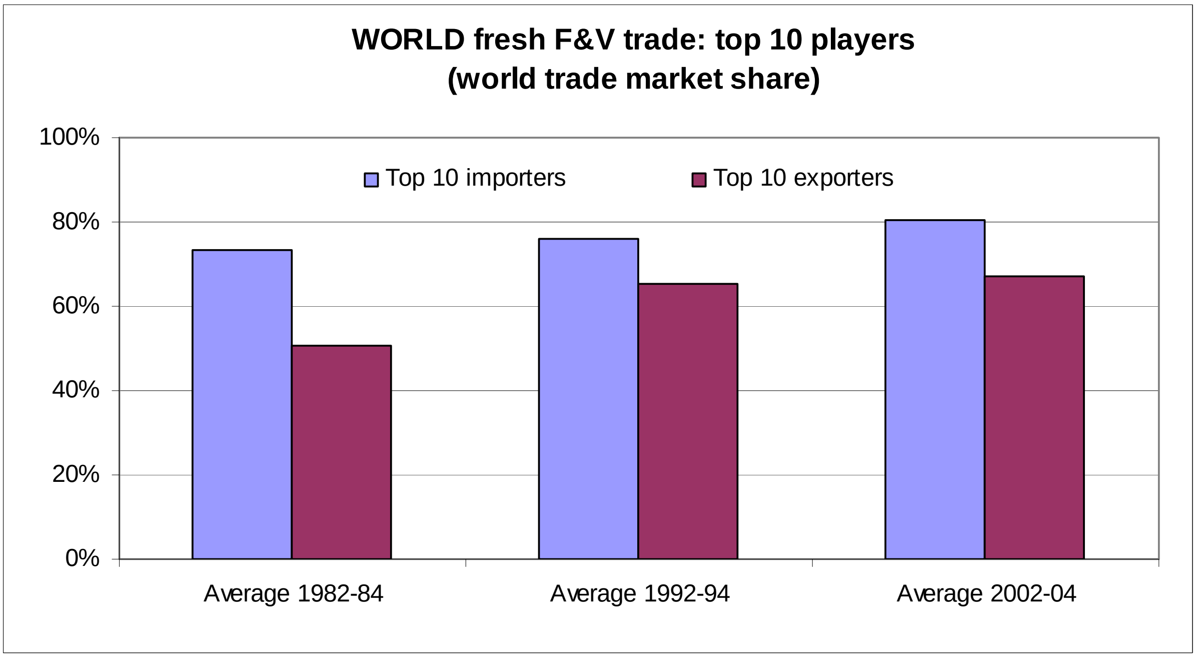
The list of biggest **exporters** of fresh fruits and vegetables starts with the USA. Mexico is 2nd, having overtaken EU in the past decade. Other big exporters are China, Chile, Ecuador and South Africa. In total, the top 10 exporters account for 2/3 of the world's fresh F&V exports.



On the **import** side, the EU is the world's biggest importer. The US follows closely behind, while other countries, like Canada, Japan and China have significantly smaller imports. The top 2 importers (EU and USA) take in 50%.

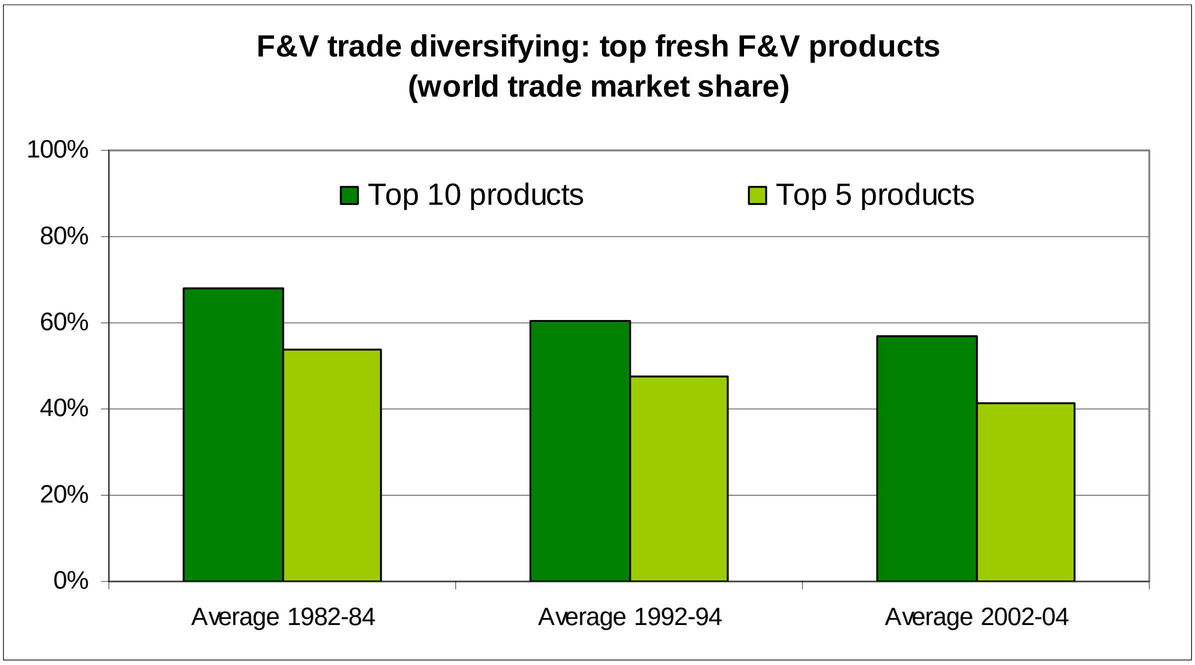


In general, world **trade in F&V is getting more concentrated**. If in 1982-84 the top 10 importers had a market share of 73% of the world's imports, it reached 80% in 2002-2004. On the export side, the top 10 exporters gained from 51% to 67% of the world F&V export market.

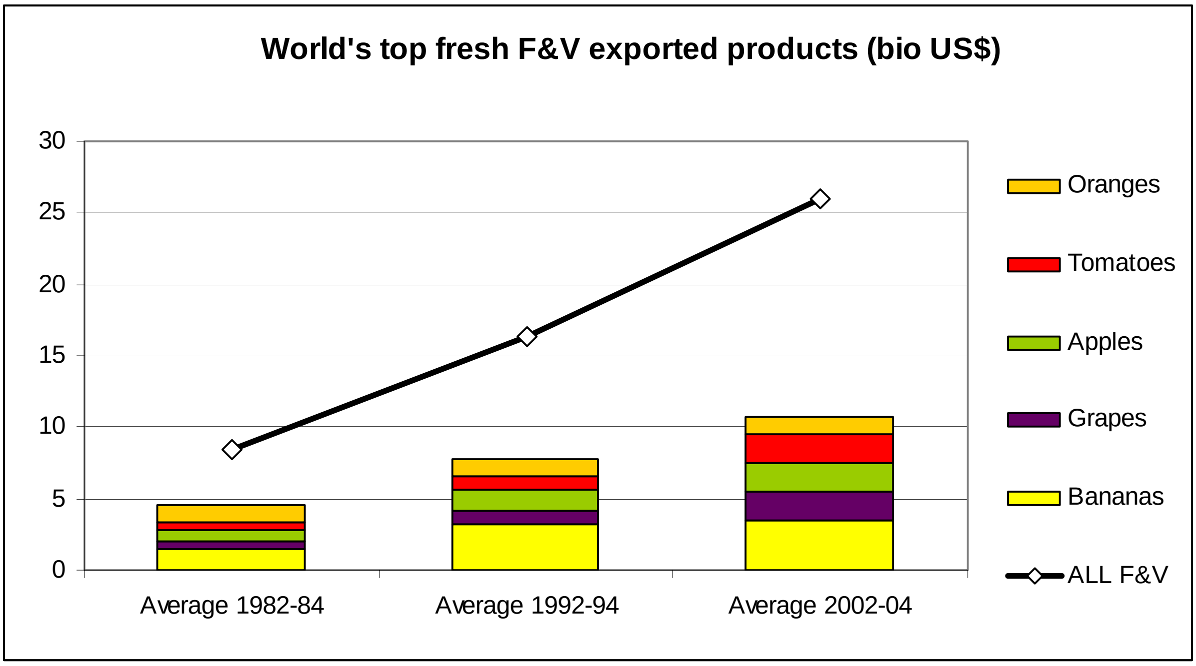


The list of fruits and vegetables traded internationally is as long and diverse as the flora itself. FAO classifies trade into over 100 "lines", 60 of which are fresh fruits and vegetables (or groups of them), the rest being juices, processed and prepared products, etc.

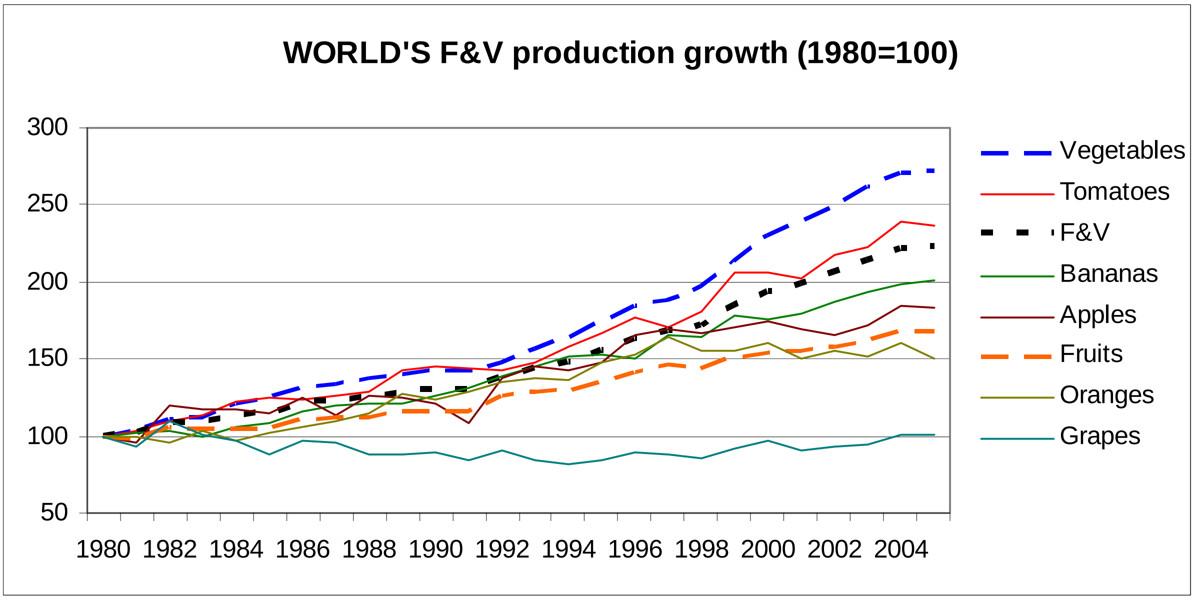
Product-wise trade is diversifying. The 5 most traded fresh products accounted for over 50% of the F&V trade in 1982-84, but this share dropped to just over 40% two decades later.



The five most traded fresh products are bananas (held 13% of the fresh F&V trade in 2002-2004), tomatoes (8%), apples (7,5%), grapes (7,5%) and oranges (5%). The share of tomatoes and grapes increased slightly over the last 20 years, while bananas, apples and especially oranges lost ground.



Production patterns since 1980 of the most traded fruits and vegetables are very different. While the quantity of tomatoes and bananas doubled since 1980, grape production stagnated. In general, production of vegetables was more dynamic than that of fruits.

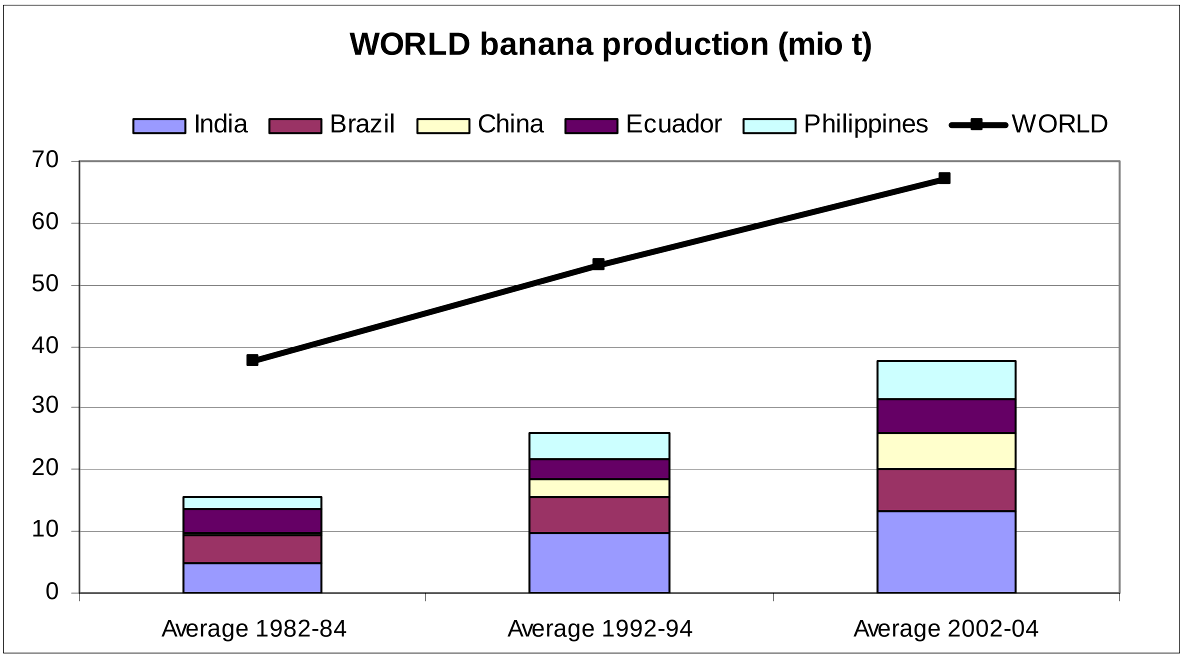


The following section summarises the main past developments in the production and trade of these products.

The most traded products

Bananas

Over the last quarter of a century (1980-2004), the world's banana **production** has doubled. The biggest producers are India, Brazil, China, Ecuador and Philippines.

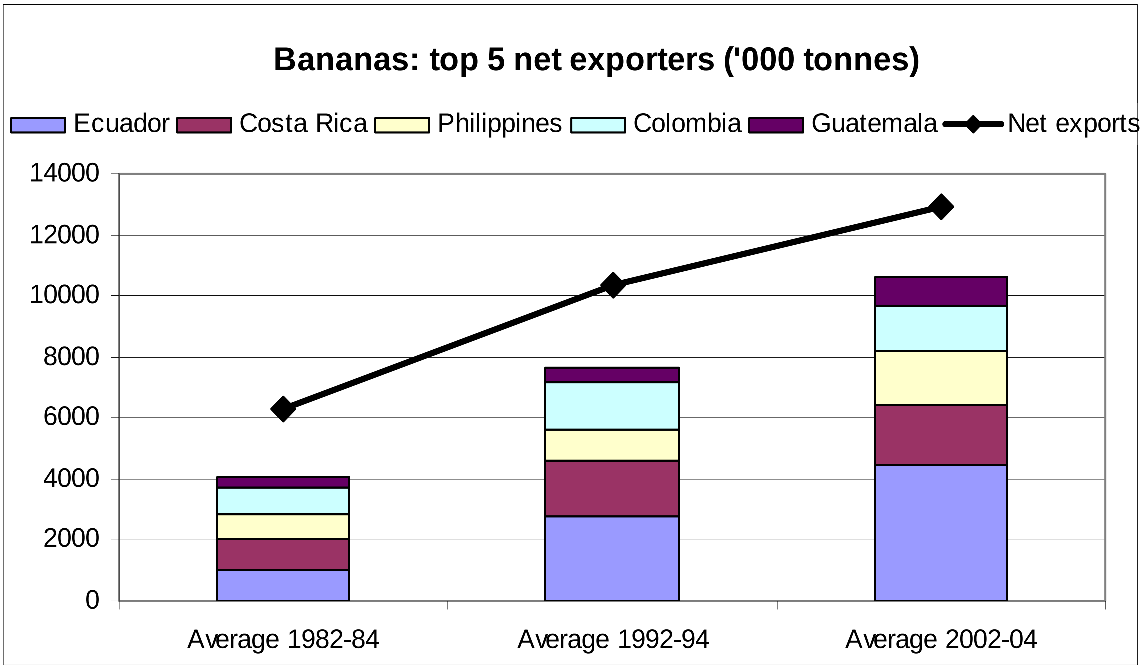


Global banana **consumption** increased by an average of 3,9% per annum (p.a) between 1990 and 2004 (overall F&V consumption growth was 4,5% p.a.).

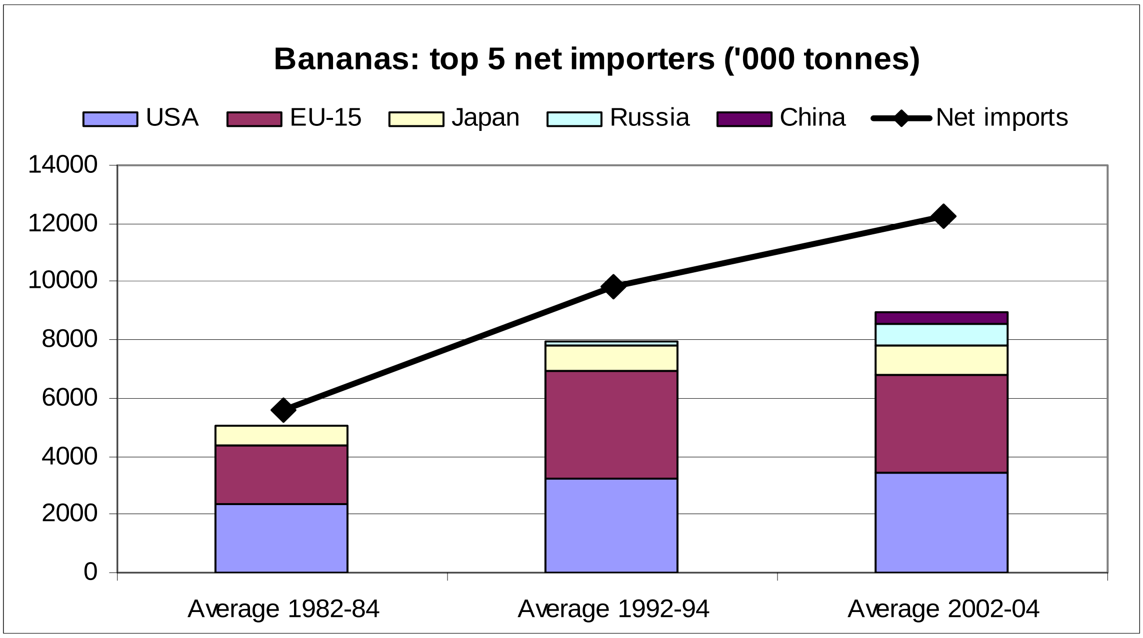
Evolution of world banana markets (mio mt)

3 year average	Production	Consumption	Net exports
1982/84	38	-	6,4
1992/94	53	43	10,4
2002/04	71	58	12,9

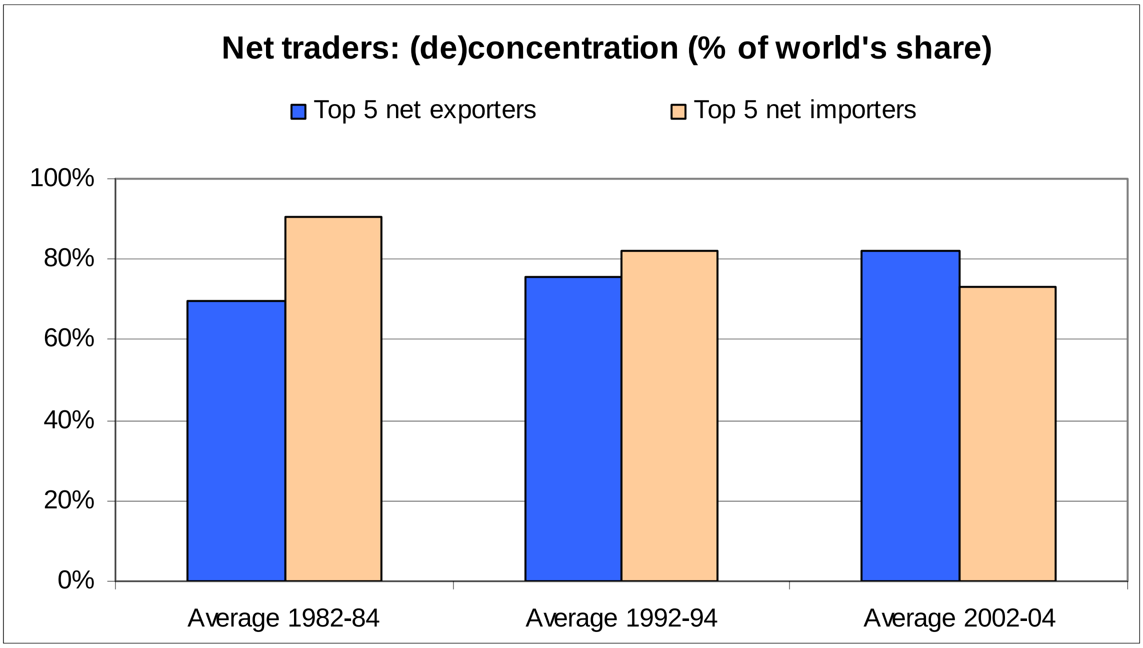
Most of the world's **net exporters** of bananas are found in Central and South America. Ecuador is the world's biggest net exporter, followed by Costa Rica, Colombia and Guatemala. The Philippines is the only non-American net exporter in the world's Top 5.



On the opposite side, USA and EU still represent the lion's share of the world's **net imports**. Japan and Russia follow, with the latter being on its way to become the world's 3rd biggest net importer in a few years.

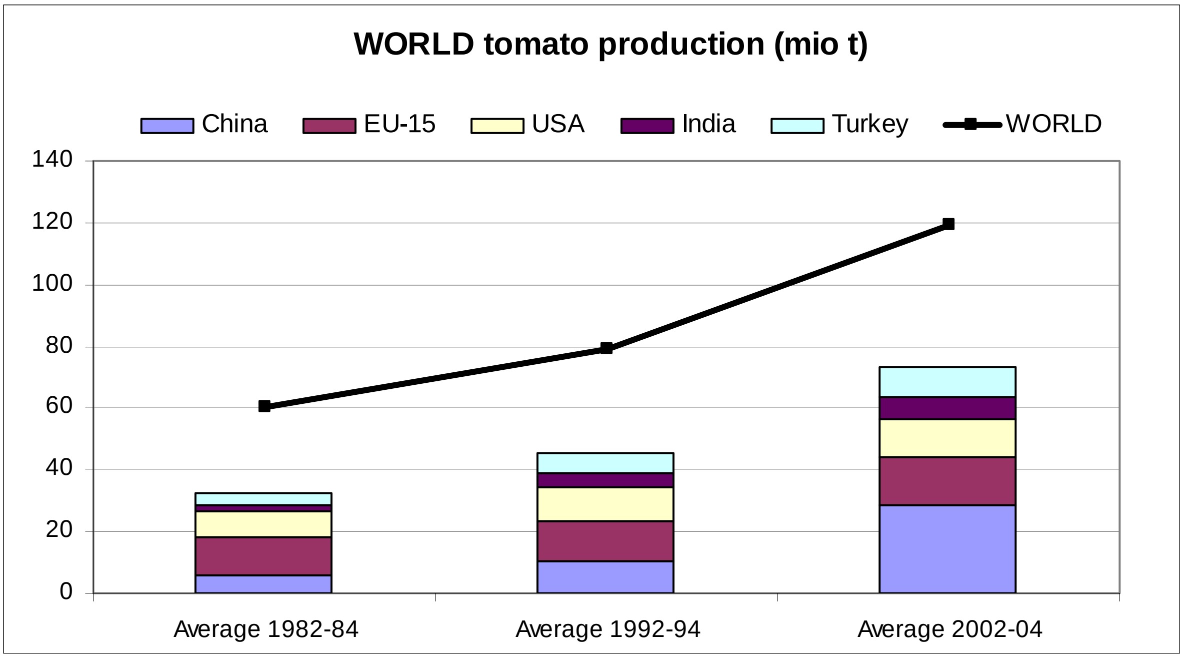


In terms of **concentration** of net importers and net exporters, the tendencies are going in the opposite directions: importers are more diversified, while exports are more and more concentrated. Two of the biggest net exporters Ecuador and Costa Rica have increased their share in world net exports from 1/3 in 1982-84 to 50% in 2002-2004. Top 10 exporters had a share of 95% in 2002-04. On the import side, top two net importers (USA and EU) saw their share drop from 78% in 1982-84 to 56% in 2002-04.



Tomatoes

Over the last two decades world tomato **production** has doubled. The biggest increase was recorded in China: from 6 mio t in 1982-84 to 28 mio t in 2002-2004. In the mid-nineties China overtook EU-15 as the world largest tomato producer. EU-15 was still ranked at no. 2 with 15,6 mio t in 2002-04 (up 60% in 20 years). Other big producers are USA, India and Turkey.

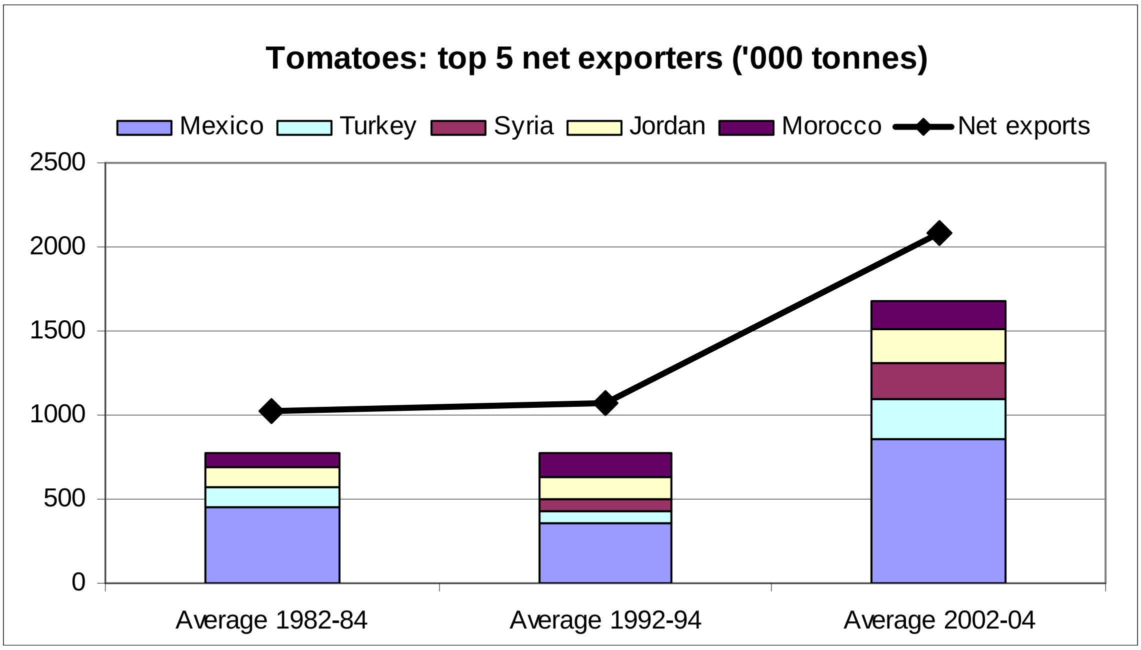


Global tomato **consumption** increased by an average of 4,5% p.a. between 1990 and 2004, in line with overall F&V consumption growth.

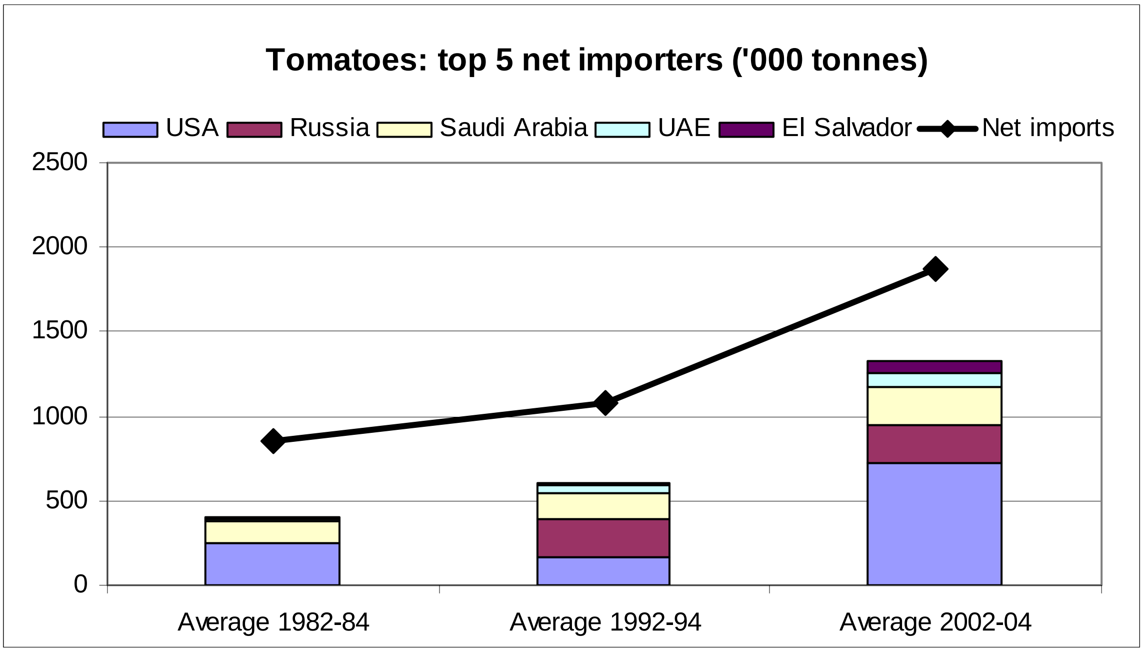
Evolution of world tomato markets (mio mt)

3 year average	Production	Consumption	Net exports
1982/84	61	-	1,0
1992/94	79	70	1,1
2002/04	119	103	2,1

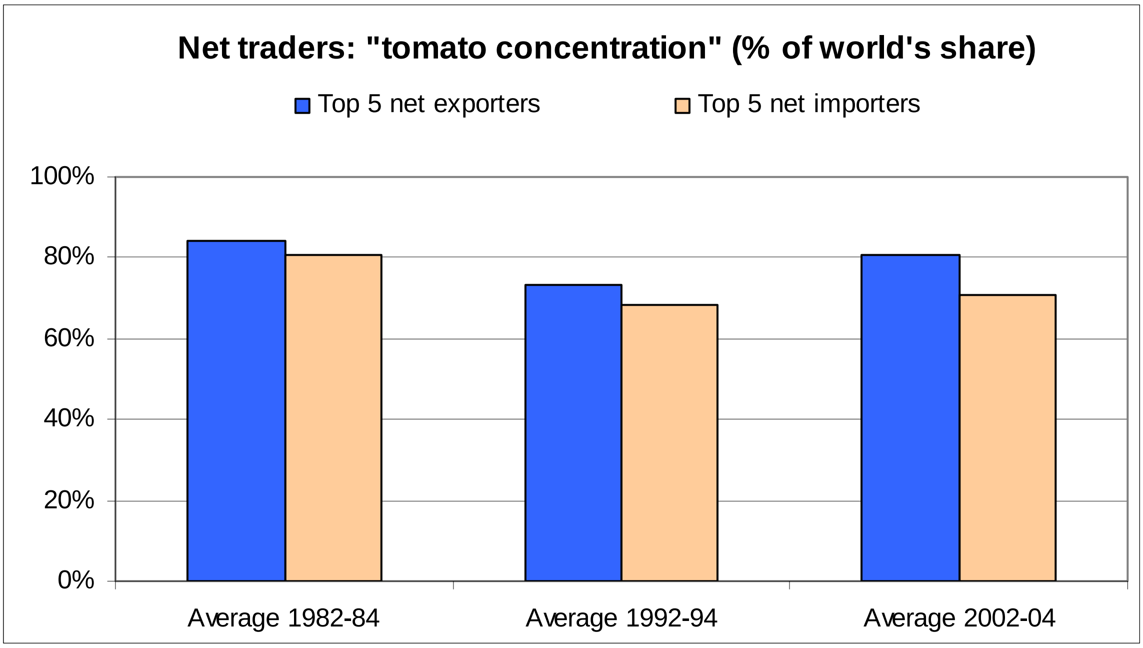
Most of the world's **net exporters** of tomatoes are based in the Mediterranean zone, though the single biggest net exporter is Mexico with most of its exports destined for the USA. EU-15 has turned from a net importer in the 1980s to a world's 6th net exporter in 2002-2004. China follows in 7th place, also turning into a net exporter in the early 1990s.



On the **net import** side, USA is the single biggest importer supplied by Mexico. Russia and Saudi Arabia are in distant 2nd and 3rd places, while other countries have no more than 4% of the world's net import market.



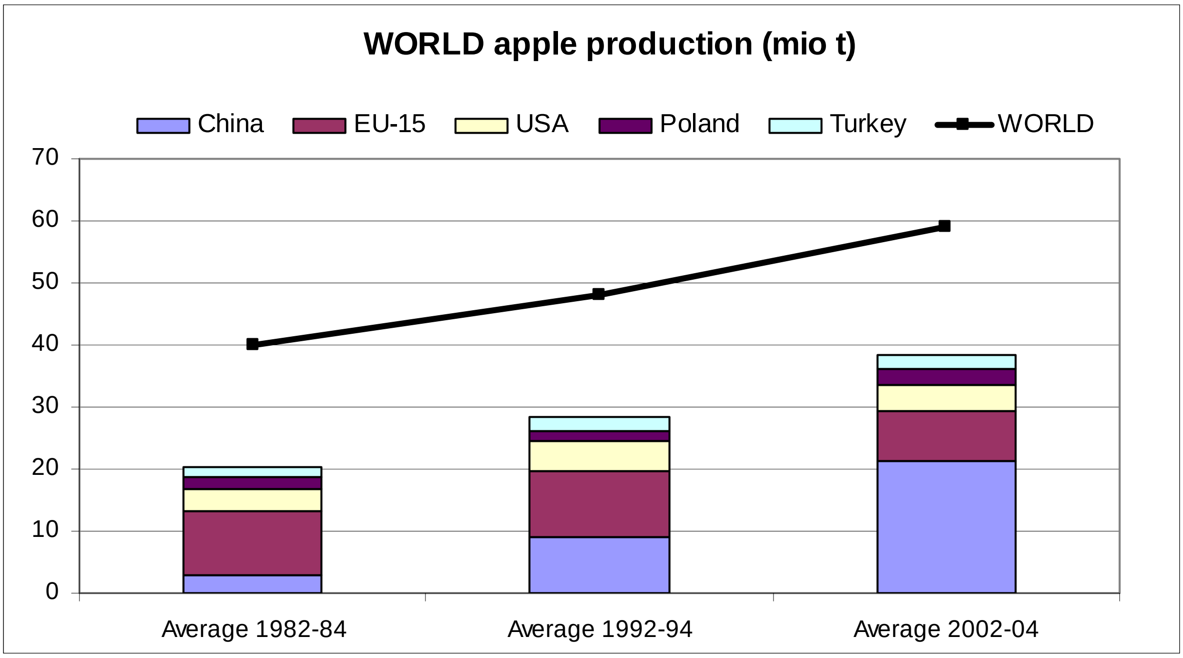
In terms of **concentration** of net importers and net exporters, the picture is mixed. In the early 1980s, the top 5 net exporters and net importers (at that time) had a share of more than 80% of the world's net trade. In the nineties, this share dropped to about 70%, but then picked up again and in 2002-2004 was 81% for the net exporters and 71% for net importers.



Apples

Over the last two decades world apple **production** has increased from 40 mio t to 59 mio t, but <u>all</u> of this growth was recorded in China: from 3 mio t in 1982-84 to 21 mio t in 2002-2004. In the mid-nineties China overtook the EU-15 as the world's largest apple producer.

The EU-15 is still ranked no.2 with 8,2 mio t in 2002-04, but its production is shrinking (down by 2 mio t since 1982-84). Other big producers were USA, Poland and Turkey.

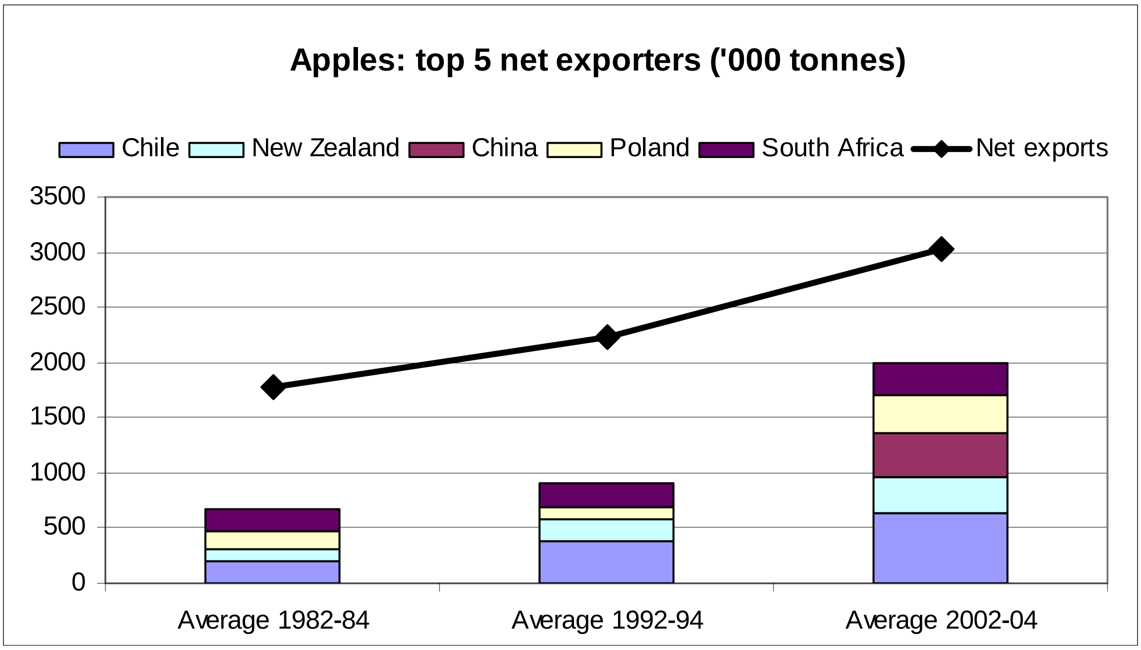


Global apple **consumption** increased by an average of 4,6% p.a. between 1990 and 2004, i.e. in line with the overall F&V consumption growth of 4,5%.

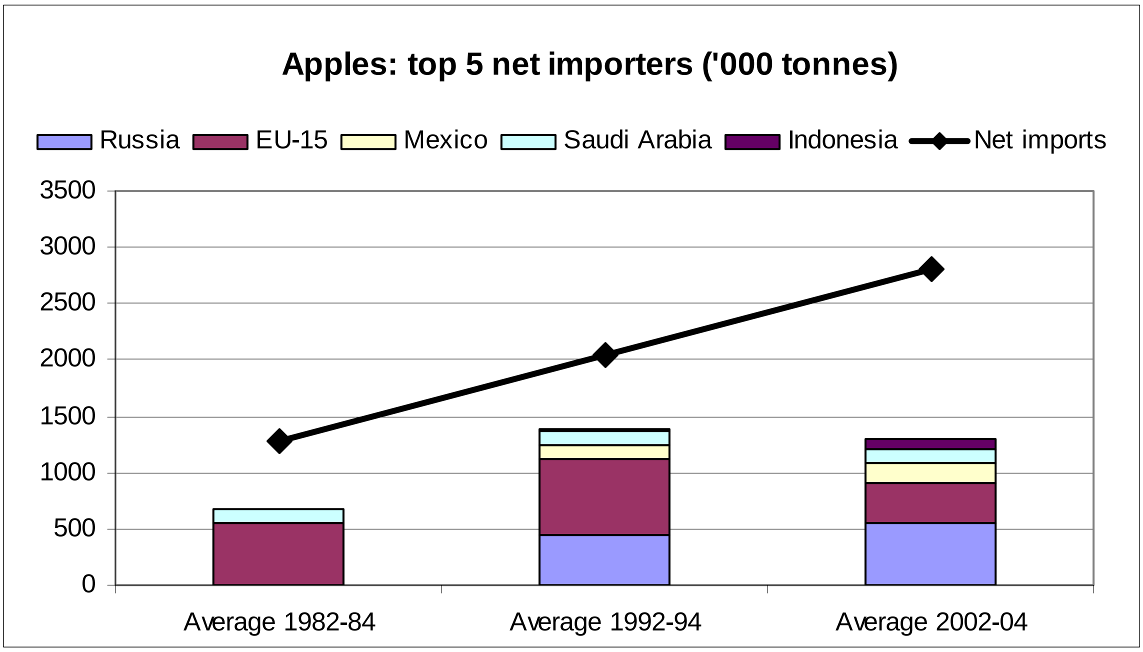
Evolution of world apple markets (mio mt)

3 year average	Production	Consumption	Net exports
1982/84	40	-	1,8
1992/94	48	43	2,2
2002/04	59	56	3,0

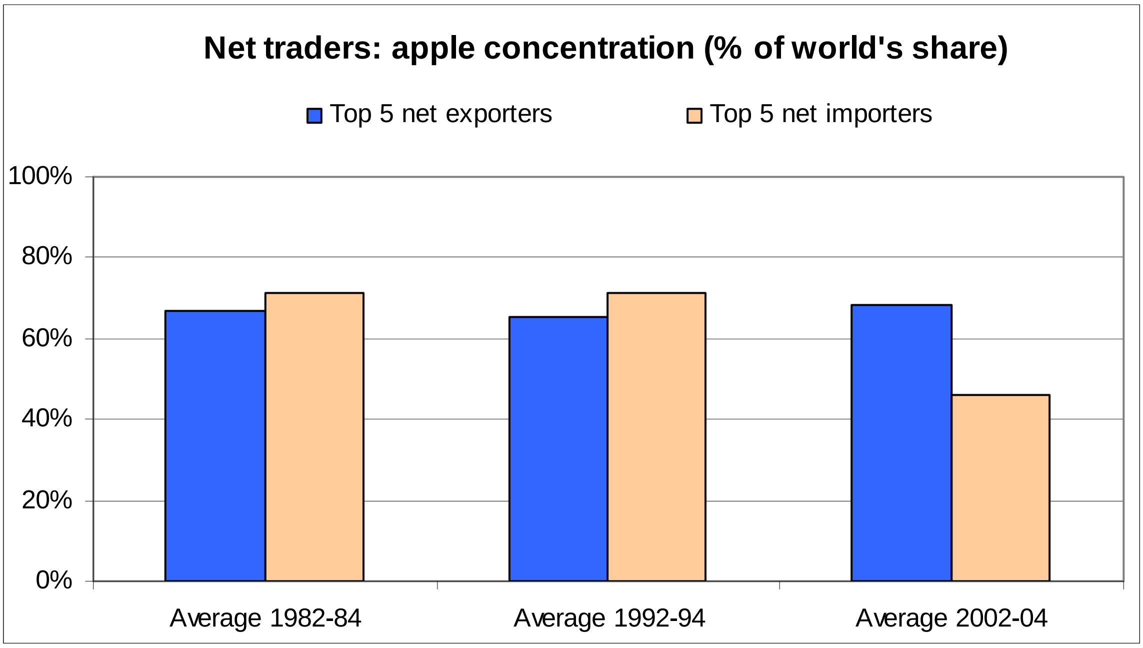
Most of the world's **net exporters** of apples are found in the Southern hemisphere (Chile, New Zealand, South Africa). These countries specialize in the off-season supply for the lucrative markets in the North, like the EU and the US. But it is China again which makes the biggest impact. Despite having been a net importer during most of the period (in fact, up until 2000), China became world's 2nd net exporter in 2004.



There are 2 big **net importers** of apples: Russia and the EU. Russia has a rather stable market, whereas EU-15's share has decreased and is set to shrink even more after Poland's (world's 4th largest net exporter in 2002-04) accession.

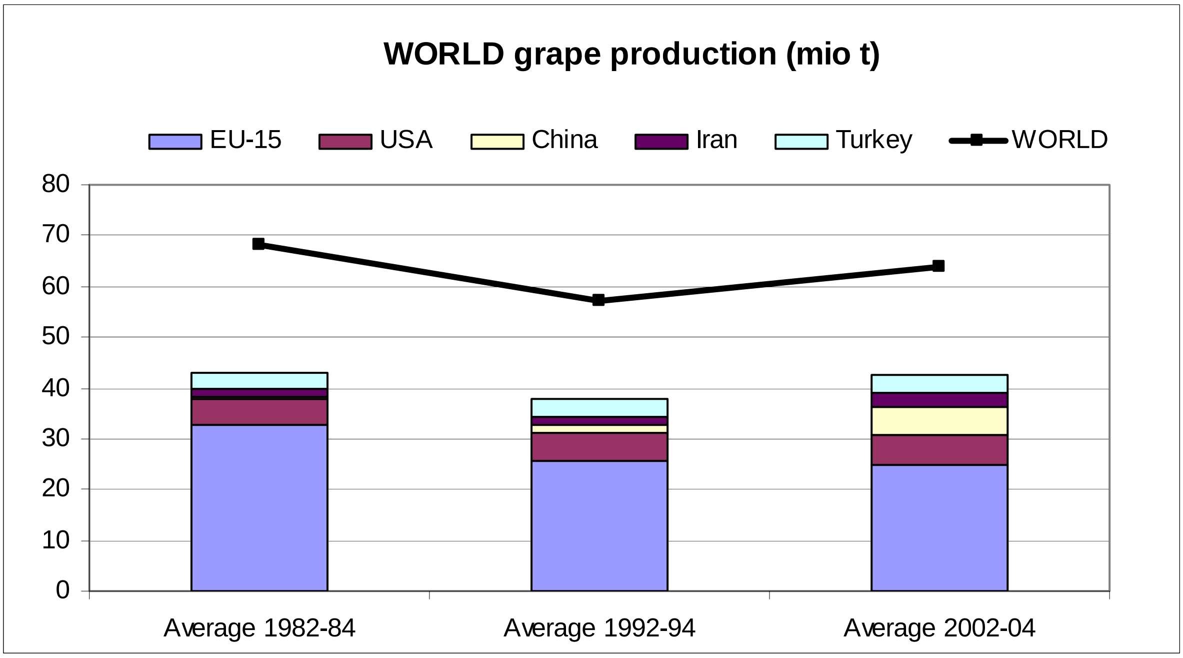


The **concentration** of net apple **exporters** has remained stable over the period, with the top 5 countries having 2/3 of the world's net exports. The same was true for the net importers, until the late nineties, when EU's net imports fell considerably. In 2002-2004 the top 5 importers had a share of just 46%, compared to around 70% earlier.



Grapes

Over the last two decades world grape **production** has either stagnated or even decreased. The EU is by far the world's largest grape producer (about 25 mio t), but the growth in production in the new millennium can be attributed to other countries, like China and the "New world" countries. Most of the grapes are processed into wine. (FAO data does not identify "table grapes" as a separate product.)

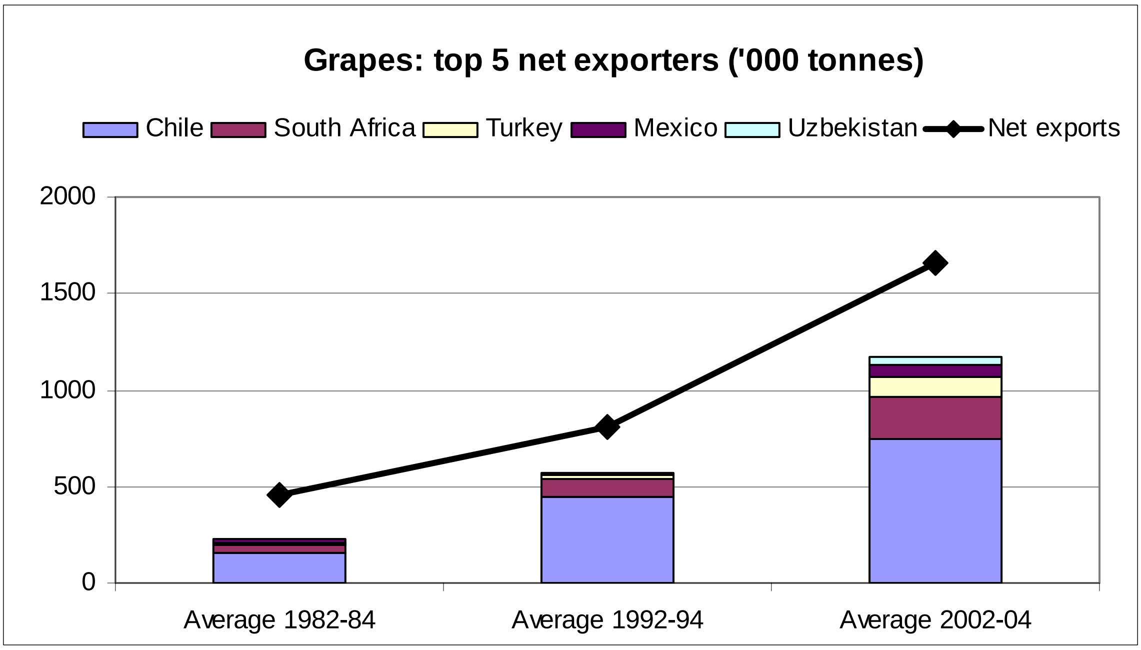


Global grape **consumption** (including wine grapes) increased by an average of 1,6% p.a. between 1990 and 2004, i.e. much lower than general F&V consumption growth of 4,5%.

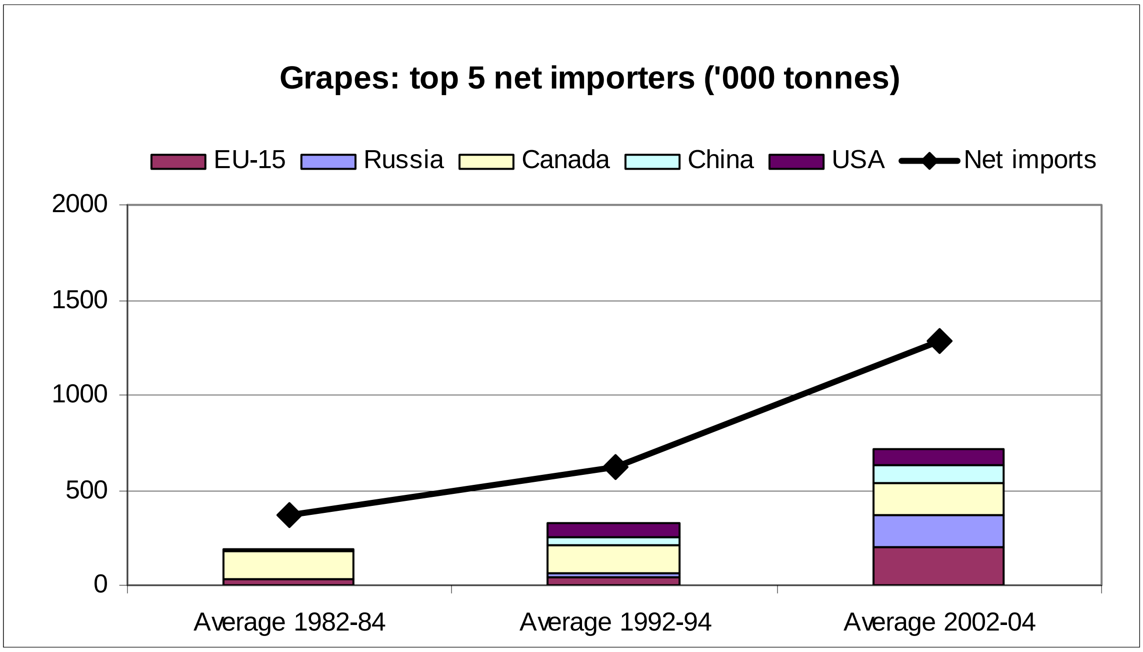
Evolution of world grape markets (mio mt)

3 year average	Production	Consumption	Net exports
1982/84	68	-	0,5
1992/94	57	52	0,8
2002/04	64	59	1,7

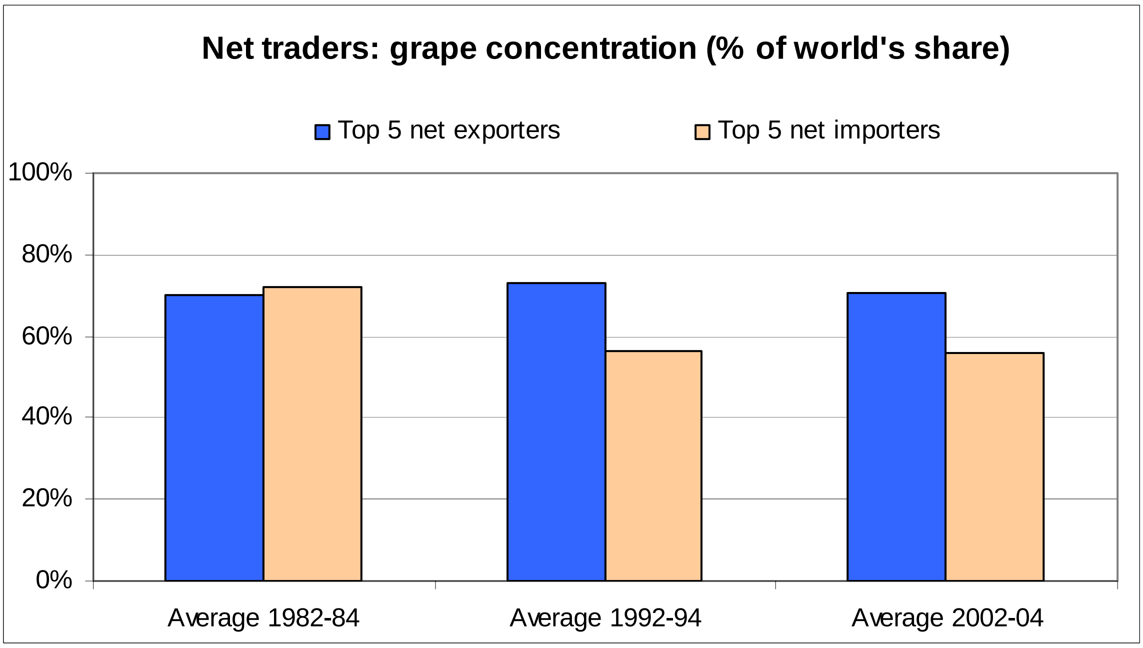
Thanks to increasing demand and new transportation technologies, trade in grapes has been growing rapidly. As well as in apples, the Southern hemisphere is playing an active role here. Chile is the single biggest **net exporter**, followed by South Africa.



There are several big **net importers** of grapes. EU-15 is the biggest, followed closely by Russia, Canada, China and the US. The EU-15 has seen the biggest growth in net imports in recent years and is likely to firmly establish itself as no. 1 after accession of other big net importers Poland and Czech Republic (no.6 and no.7 in 2002-2004).

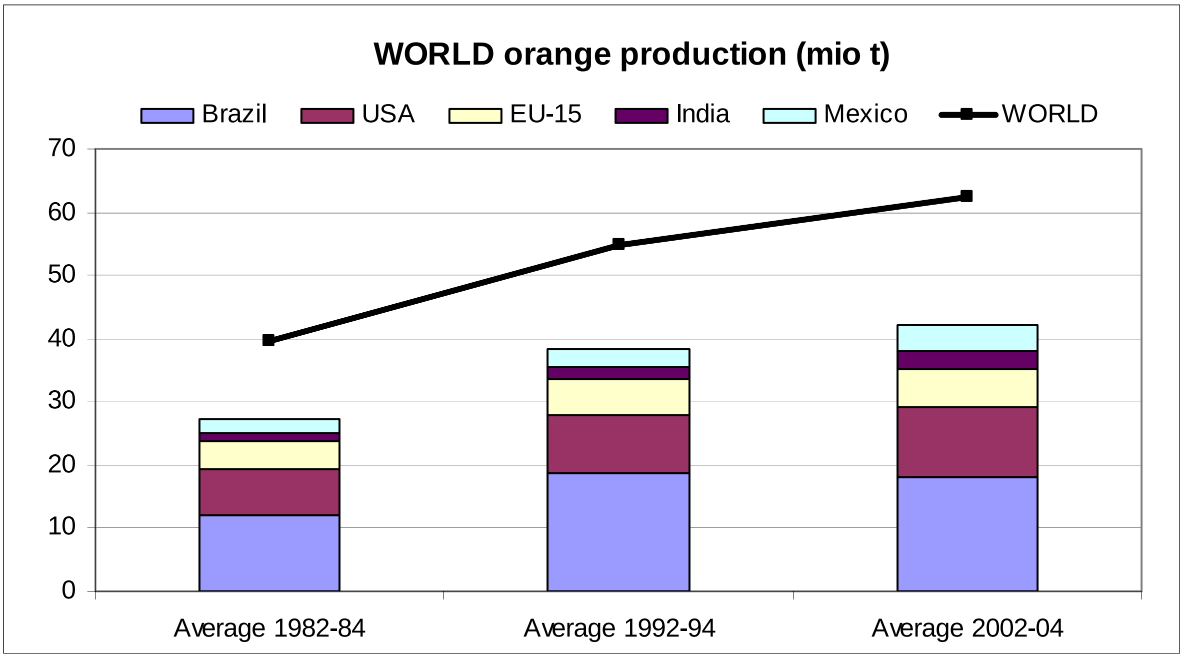


Despite rapid changes in the trade pattern in recent years, the **concentration** of net grape traders remained stable with about 70% of net exports coming from the top 5 exporters and about 55% of net imports covered by the 5 biggest net importers.



Oranges

Over the last two decades world's orange **production** has increased from 40 mio t to 62,5 mio t. The world's two largest producers – Brazil and the US – account for half of it, the EU-15 being in a distant third place.



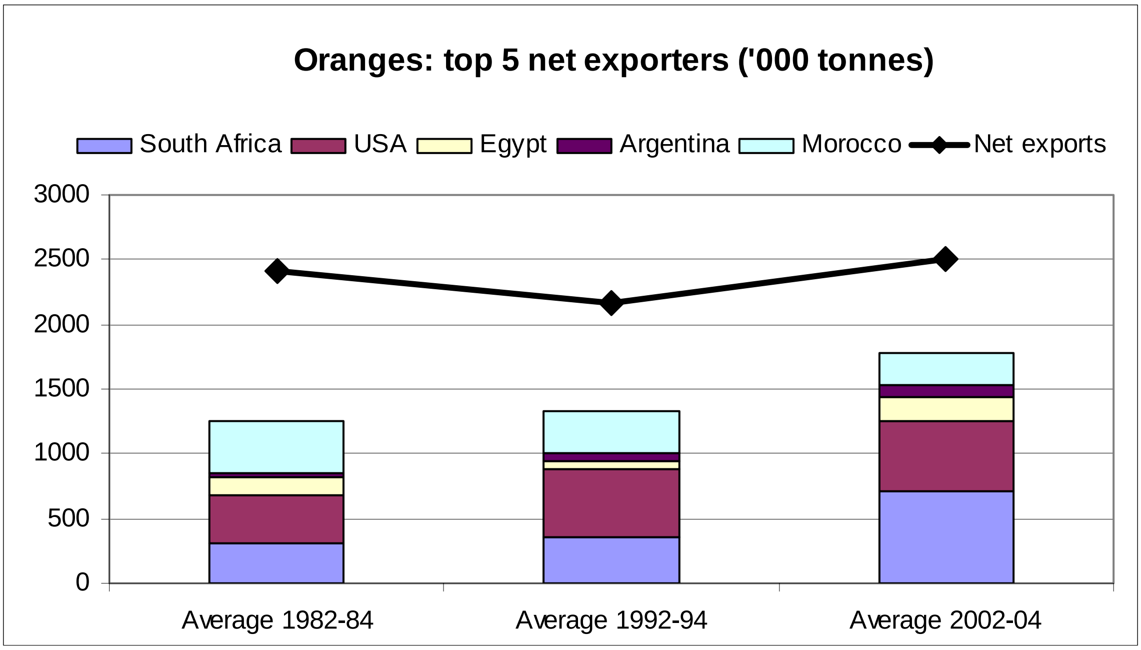
Global orange **consumption** increased by an average of 1,9% p.a. between 1990 and 2004, i.e. much lower than general F&V consumption growth of 4,5%.

Evolution of world orange markets (mio mt)

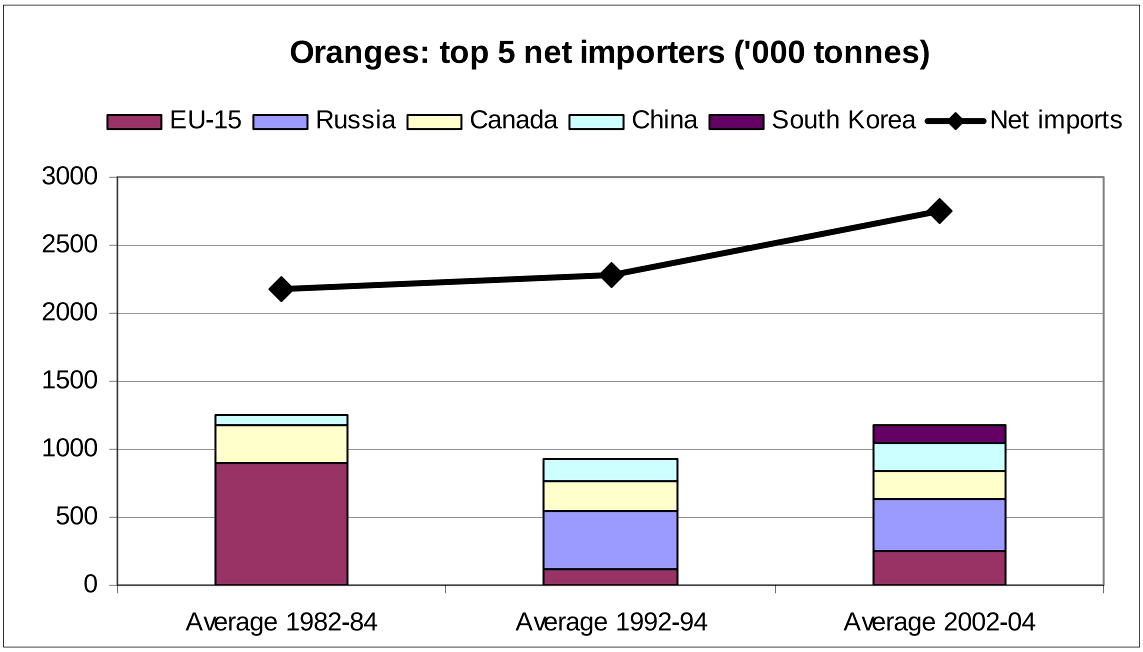
3 year average	Production	Consumption	Net exports
1982/84	40	-	2,4
1992/94	55	43	2,2
2002/04	63	53	2,5

Despite the growth in production, **trade** in oranges has rather stagnated. This could be due to the fact that consumers now prefer more exotic fruits, and now they have a choice which was not possible even a few decades ago.

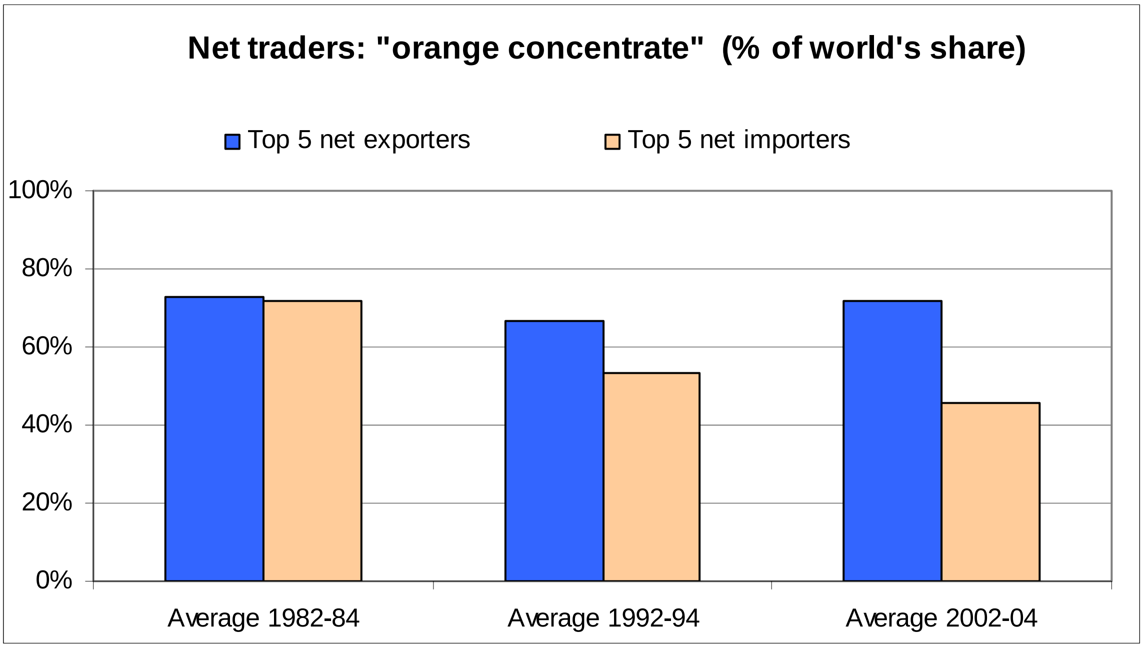
South Africa and the US are the biggest **net exporters**, with Mediterranean countries actively exporting as well.



In the early eighties, the EU-15 was the single biggest (40% of the world market) **net importer** of oranges. Nowadays there are a lot of smaller net importers, with Russia in first place.



In terms of **concentration** of net importers and net exporters, the tendencies are going in the opposite directions: importers are diverging, while exports are more and more concentrated. This is especially true on the importers side: if in the early eighties the top 5 net importers had about 70% of the net market, only 45% was left in 2002-2004.



CONCLUSIONS

Production of F&V grew rapidly in the last quarter century, but the growth was not balanced (most of it came from China).

Consumption is still lagging behind minimum levels set by the WHO, but the situation is improving. Economic growth should facilitate consumption growth as consumers tend to diversify their diet as income rises.

Trade in F&V has been growing fast, fuelled by consumers' will to have variety products all year round. This is particularly true for tropical fruits. As a result, there has been strong growth in trade between producer countries in the Southern hemisphere (Chile, South Africa, New Zealand) and consumers countries in the North (the EU and the USA).