Patterns and dynamics of egg production in the sub-regions of Oceania

Hans-Wilhelm Windhorst[1]

In four preceding articles the author of this paper presented analyses of the patterns and dynamics of egg production in the sub-regions of Europe, Asia, the Americas and Africa. In this paper, the dynamics and present situation in Oceania will be analysed for the time period between 1990 and 2008.

The setting

World egg production increased from 35.2 mill. t in 1990 to almost 61 mill. t in 2008 or by 72.4 %. With a share of 58.8 % Asia dominated global production in 2008. Countries in Oceania contributed only 0.4 % to the global production volume, 0.3 % less than in 1990 (figure 1). Oceania is neither playing a major role in global production nor in egg trading. This is a result of the peripheral location to major markets as well as the low population. European countries are still in a leading position sharing almost two thirds of egg exports and egg imports.

Nevertheless, the dynamic in egg production in Oceania since 2003 has been considerable, especially in Australia and New Zealand. The reason for the change is to be found in the increase of per capita consumption. In 2008, the two leading countries, Australia and New Zealand, contributed 94 % to the overall production volume of this continent and 0.38 % to global egg production.

The main goals of this paper are:

- to give an overview about the development of egg production in Oceania between 1990 and 2008 on the basis of sub-regions,
- to identify countries with increasing, stagnating or decreasing egg production,
- to characterise the trade balance of the sub-regions of Oceania for shell eggs for consumption.

[1] The author is professor emeritus for comparative structural analysis at the Institute for Spatial Analysis and Planning in Areas of Intensive Agriculture (ISPA) at the University of Vechta, Germany.

Development of egg production in the sub-regions of Oceania between 1990 and 2008

Between 1990 and 2008 egg production in Oceania increased from 243,688 t to 246,615 t or by 1.2 %. Because of the decreasing production volume in Australia and New Zealand, which the FAO counts as one sub-region, this growth was mainly a result of the development in Melanesia and Polynesia as can be seen from table 1 and figure 2. In Australia and New Zealand, the production volume decreased by almost 57,000 t between 1990 and 2003 and in 2008 was still almost 2,800 t or 1.2 % lower than in 1990. In Melanesia, egg production grew by 3,700 t or 49.7 %. The highest relative growth rate showed Micronesia with152.5 %, but the overall production volume of this sub-region only reached 1,237 t.

Table 1:
The development of egg production in the sub-regions of Oceania between 1990 and 2008; data in 1,000 t
(Source: FAO database)

Year	Australia/ New Zealand	Melanesia	Polynesia	Micronesia	Oceania
1990	233.8	7.5	1.9	0.5	243.7
2000	186.0	10.0	2.3	1.1	186.0
2008	231.0	11.2	3.1	1.2	246.6
Change (%)	- 1.2	+ 49.7	+ 65.1	+ 152.5	+ 1.2

The changing contribution of the sub-regions to the overall egg production in Oceania can be seen from figure 3. It shows the dominant role of Australia and New Zealand. They contributed 93.7 % to the production volume in 2008. Countries in Melanesia shared 5.0 %, Polynesia and Micronesia together contributed 1.3 %.

The following chapters will analyse the dynamics of egg production in the four sub-regions of Oceania. This will make it possible to distinguish countries with an increasing production volume from those with a stagnating or even decreasing egg production.

Australia and New Zealand

Egg production in these two countries fell by over 50,000 t between 1990 and 1992, remained on a level between 180,000 t and 190,000 t until 2004 before increasing again by almost 55,000 t in the following years. Since then the production volume has been fairly stable with 230,000 t. This dynamic is mainly due to the development in Australia (figure 4), but also New Zealand contributed to the recent increase of the production volume.

Table 2:
Egg production in Australia and New Zealand in 2008
(Source: FAO database)

Country	Production (t)	Share (%)
Australia	161,700	70.0
New Zealand	69,342	30.0
Total	231,042	100.0

A closer look at the contribution of these two countries to the production volume of the sub-region shows (table 2) that Australia is in a dominant position with a share of 70 %. The potential egg production in both Australia and New Zealand is much higher however, especially when one considers the feed base. The limited domestic demand and the long distances to major markets in Asia are the main limiting factors for a dynamic development. In recent years, a discussion about the future of housing systems and a possible banning of conventional cages has gained in importance. However, it has not yet reached the status of new legislation as it has in the EU.

Melanesia

Egg production in Melanesia increased from 7,507 t in 1990 to 11,239 t in 2008 or by 49.7 %. Papua New Guinea and Fiji are the two leading countries in this sub-region with a share of 74.3 % (table 3).

Table 3:
Egg production in Melanesia in 2008
(Source: FAO database)

Country	Production (t)	Share (%)
Papua New Guinea	4,950	44.0
Fiji	3,401	30.3
New Caledonia	2,000	17.8
Solomon Islands	488	4.3
Vanuatu	400	3.6
Melanesia	11,239	100.0

A closer look at the dynamics in the three leading countries of this sub-region reveals (figure 5) the almost continuous upward trend in the production volume in Papua New Guinea and New Caledonia and the ups and downs in Fiji. The latter is a result of the political instability during the past 20 years.

Polynesia

In Polynesia, egg production increased from 1,876 t in 1990 to 3,097 t in 2008, or by 65.1 %. In spite of the high relative growth rate one must not forget that the overall production volume is very low.

Table 4:
Egg production in Polynesia in 2008
(Source: FAO database)

Country	Production (t)	Share (%)
French Polynesia	2,390	72.2
Tonga	300	9.7
Samoa	260	8.4
Wallis and Futuna Islands	40	1.3
Cook Islands	35	1.1
American Samoa	30	1.0
Tuvalu	22	0.7
Niue	12	0.4
Tokelau	8	9.3
Polynesia	3,097	*100.0

* sum does not add because of rounding

Table 4 shows that over 90 % of the egg production of this sub-region is concentrated in the three leading countries, with French Polynesia in a dominating position.

Micronesia

In this sub-region, only 1,237 t of shell eggs were produced in 2008. Nevertheless the production volume more than doubled since 1990 and had the highest relative growth rate with 152.5 %.

In 2008, Guam contributed 60.6 % to the overall production volume of Micronesia, followed by Kiribati and the Federated States of Micronesia. In Guam, egg production increased from only 200 t in 1990 to 750 t in 2008. In spite of the high growth rate, the egg demand of this sub-region could not be met by domestic production so that over 2,000 t of eggs had to be imported (see also figure 6).

Table 5:
Egg production in Micronesia in 2008
(Source: FAO database)

Country	Production (t)	Share (%)
Guam	750	60.6
Kiribati	287	23.2
Federated States of Micronesia	184	14.9
Nauru	16	1.3
Micronesia	1,237	100.0

High regional concentration and negative trade balance

It is not surprising that the regional concentration of egg production in this continent is extremely high. Almost 27 mill. of the 34.4 mill. inhabitants of Oceania live in Australia (22.5 mill.) and new Zealand (4.4 mill.). Only these two countries have major domestic markets for shell eggs and egg production and therefore have developed a modern egg industry.

Table 6:
The six leading countries in egg production in Oceania in 2008
(Source: FAO database)

Country	Production (t)	Share (%)
Australia	161,700	65.6
New Zealand	69,342	28.1
Papua New Guinea	4,950	2.0
Fiji	3,401	1.4
French Polynesia	2,390	1.0
New Caledonia	2,000	0.8
Six countries	243.783	98.9
Oceania	246,615	100.0

From the data in table 6 one can see that almost 99 % of the production volume of Oceania is concentrated in the six leading countries, 65.6 % in Australia alone.

In spite of the low population and a limited domestic market, the trade balance of Melanesia, Polynesia and Micronesia was negative in 2008, only Australia/New Zealand showed a small surplus (figure 6). This was however, not sufficient to meet the demand of the other three sub-regions.

Main results

- The countries of Oceania contributed only 0.4 % to global egg production in 2008.

- The peripheral location and low population figures limit the expansion of egg production in Australia and New Zealand in spite of a good feed base.

- The regional concentration of egg production in this continent is extremely high; almost 94 % of the overall production volume is contributed by Australia and New Zealand.

- Only the sub-region Australia/New Zealand showed a positive trade balance in 2008, all other sub-regions had to import eggs in addition to their domestic production.

- It cannot be expected that the production volume will increase considerably in the coming years because of the limiting factors of location and population.

References

FAO database: http://faostat.fao.org.

Windhorst, H.-W.: A Projection of the Regional Development of Egg Production until 2015. (IEC Special Report April 2008). London 2008. 19 p.

Figure 1:
The changing contribution of the continents to global egg production between 1990 and 2008
(Source: Own calculations based on FAO data)

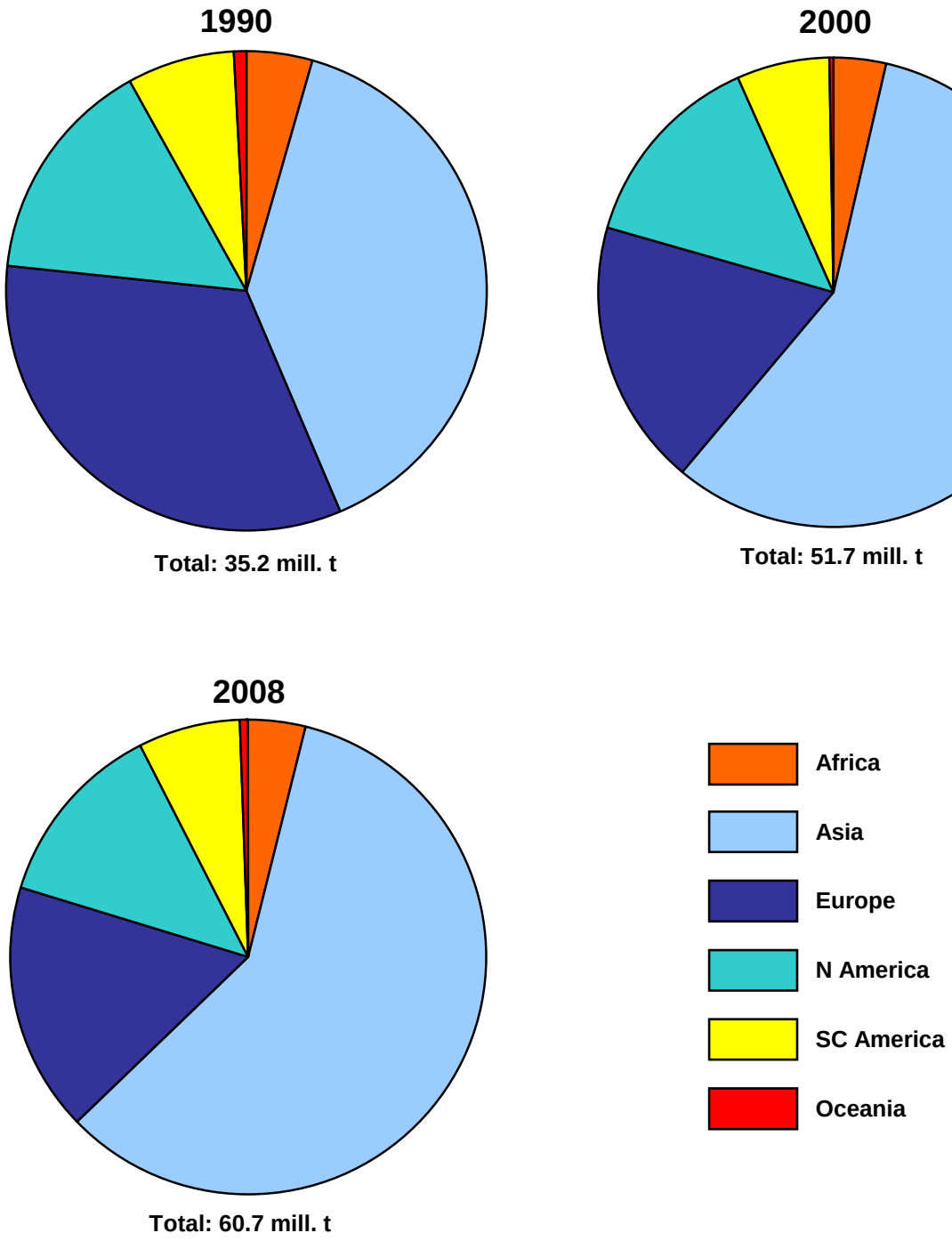

Figure 2:
The development of egg production in the sub-regions of Oceania between 1990 and 2008
(Source: FAO database)

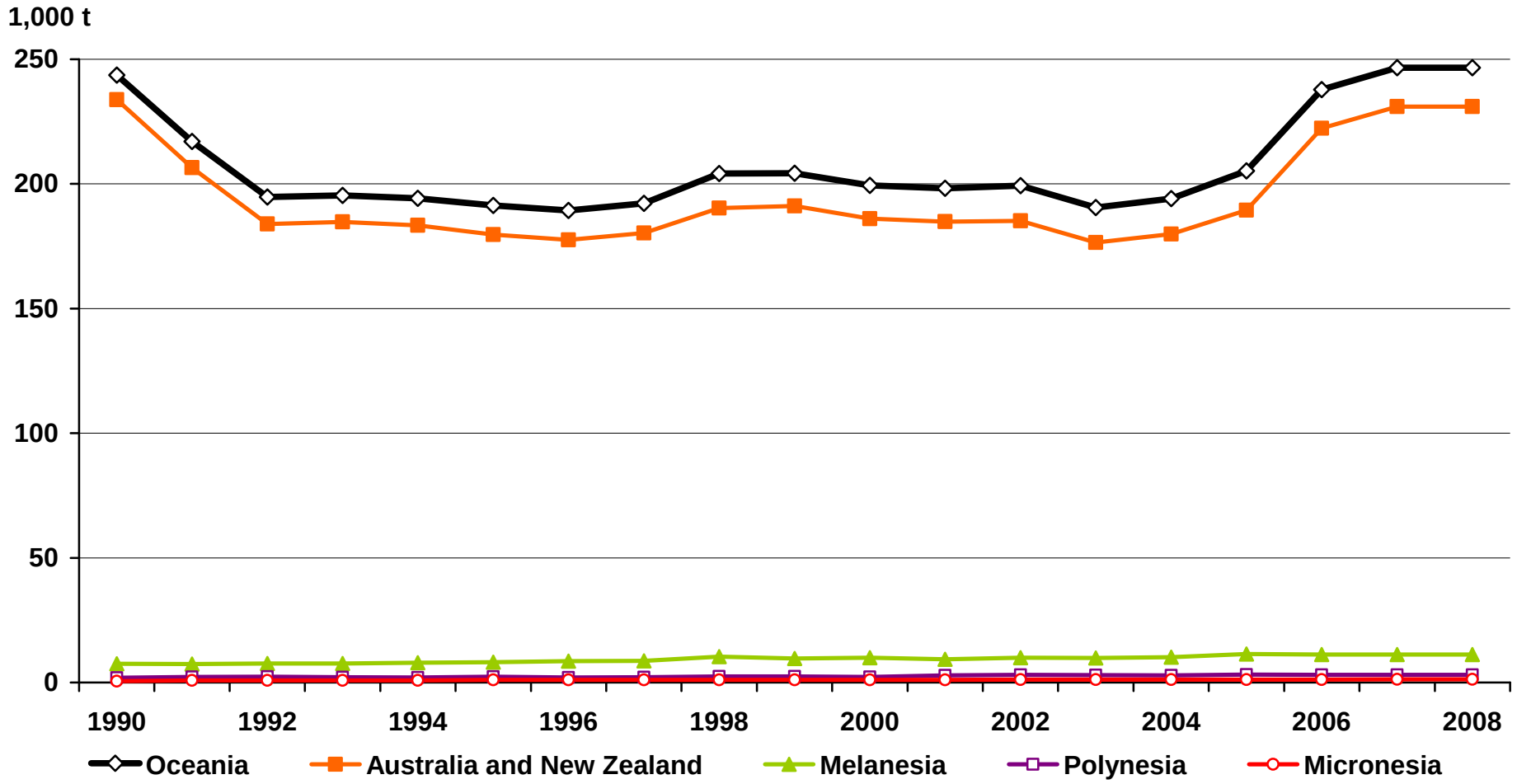

Figure 3:
The changing contribution of the sub-regions to egg production in Oceania between 1990 and 2008
(Source: FAO database)

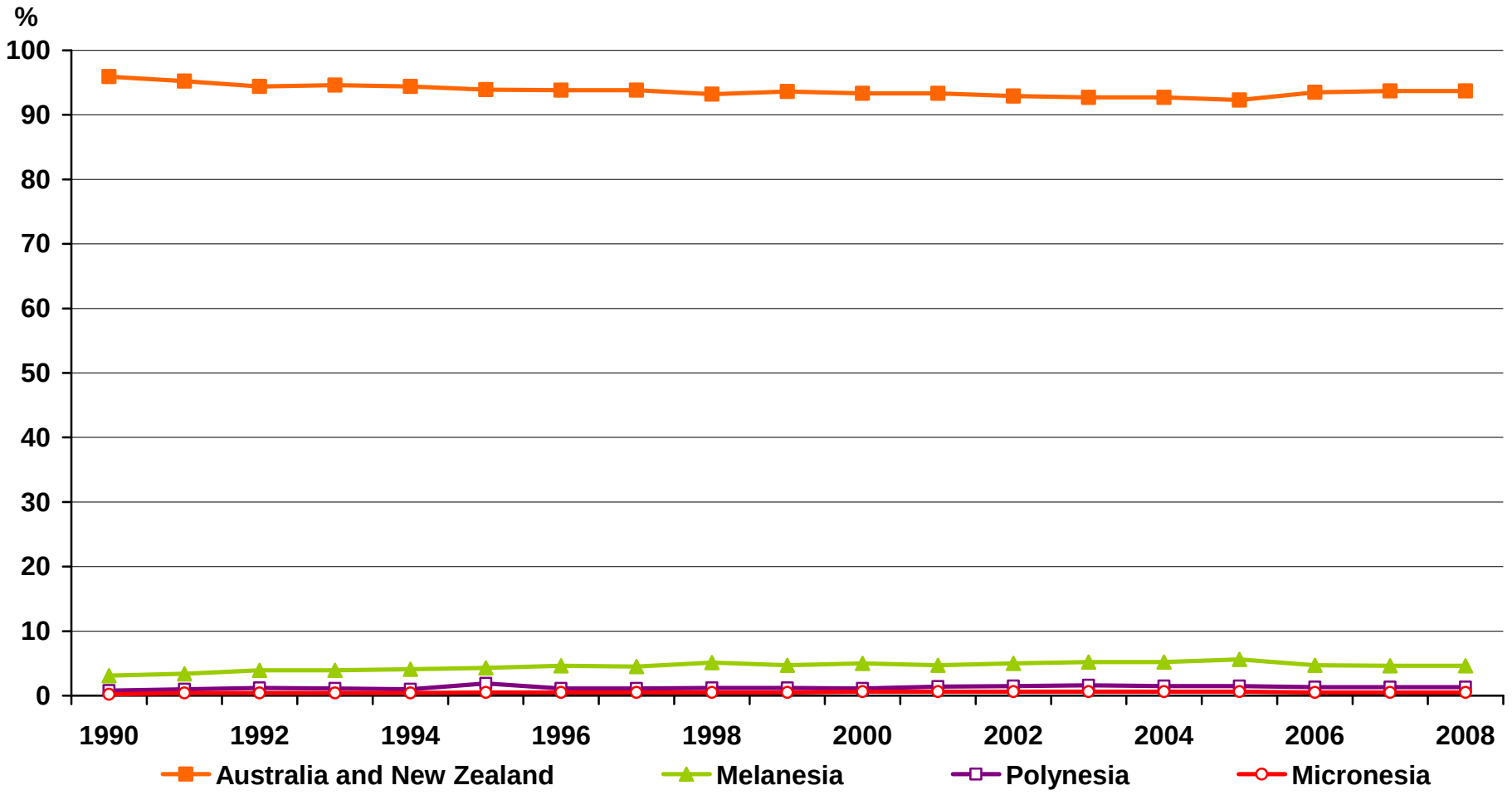

Figure 4:
The development of egg production in Australia and New Zealand between 1990 and 2008
(Source: FAO database)

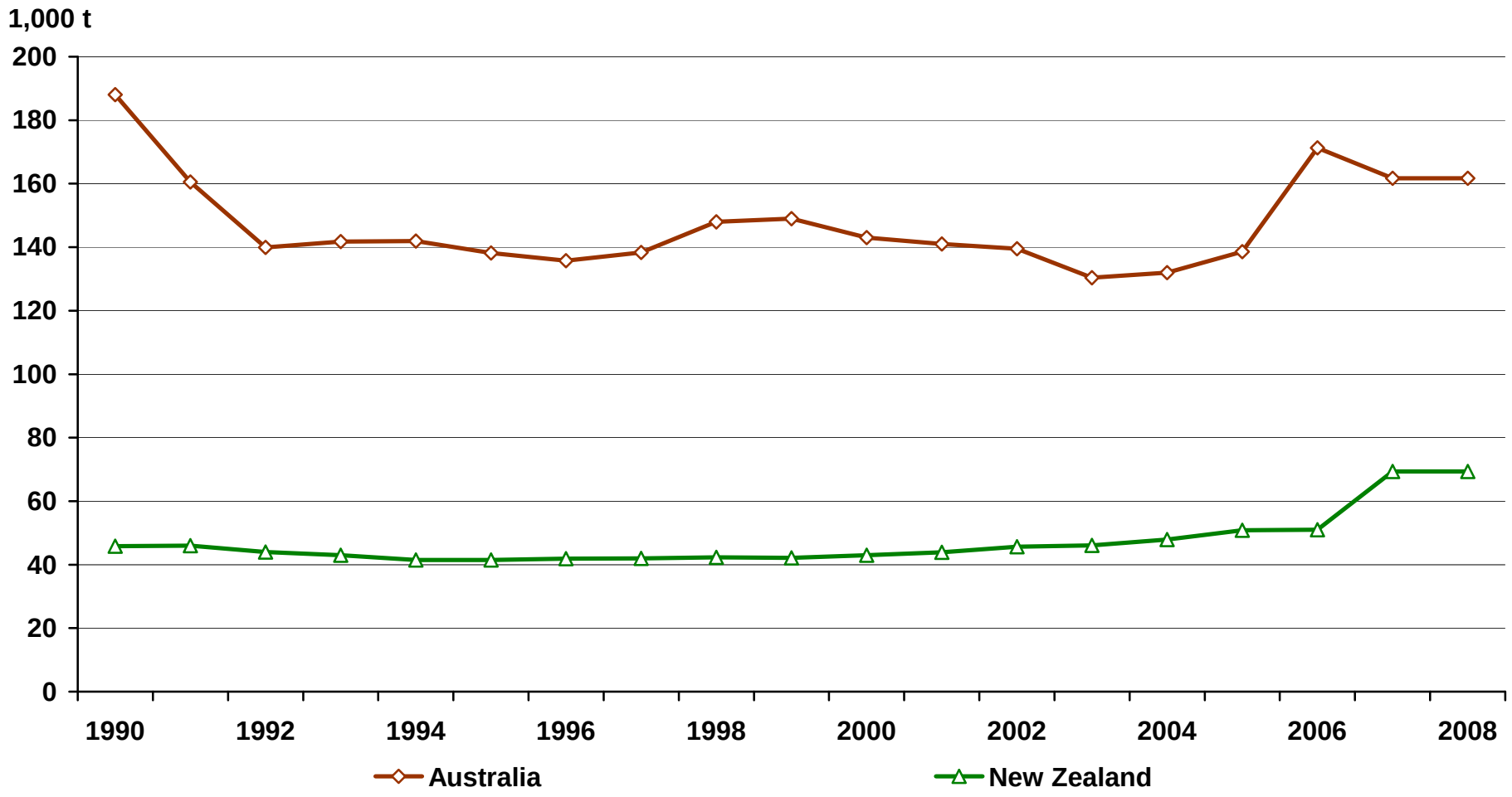

Figure 5:
The development of egg production in Papua New Guinea, Fiji and New Caledonia between 1990 and 2008
(Source: FAO database)

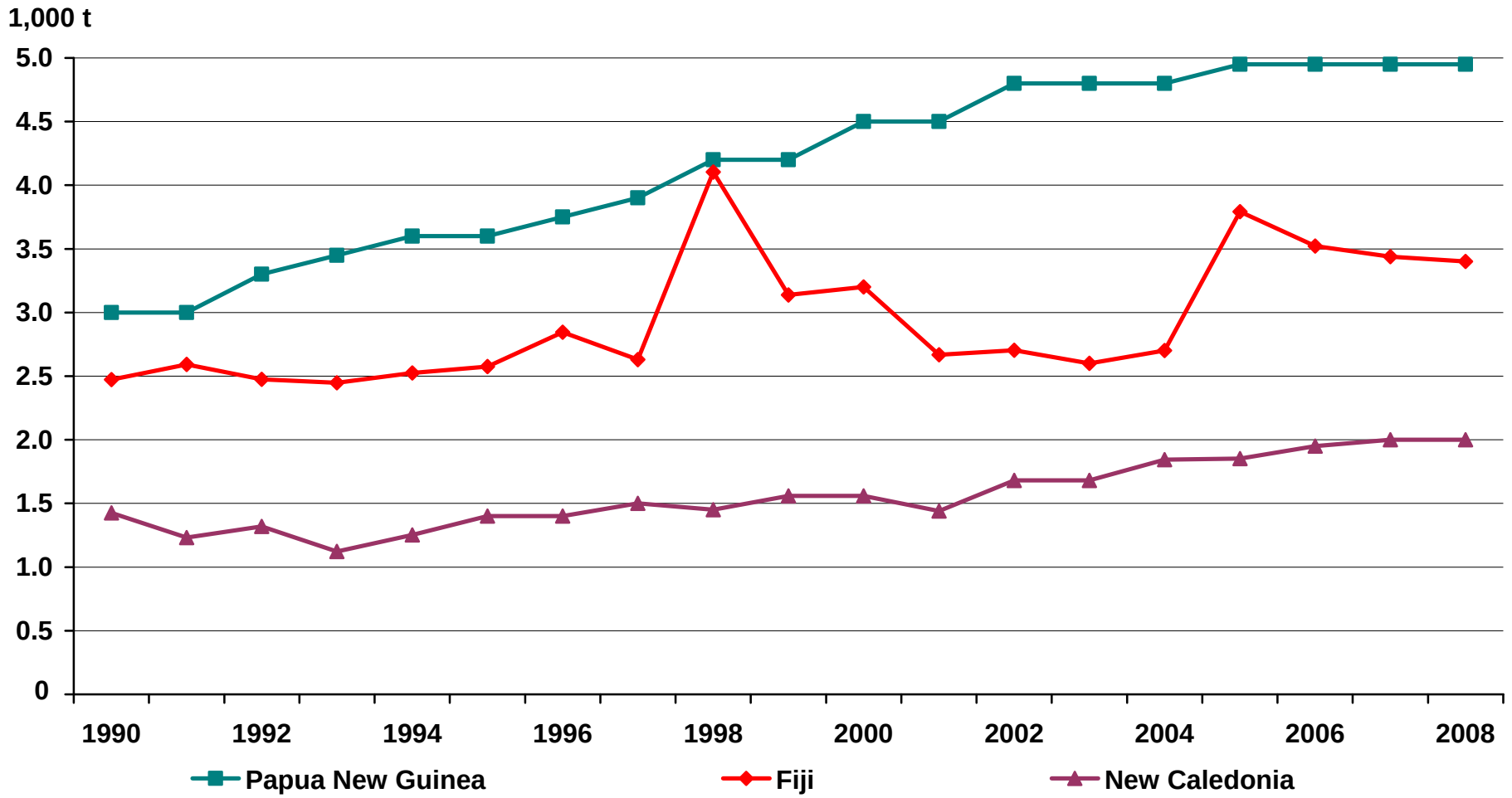

Figure 6:
The trade balance for shell eggs for consumption in the sub-regions of Oceania in 2007
(Source: Own calculations)