



# Newsletter Edicom – *INTRASTAT*

2 □ 1998

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## EDITORIAL

**Eurostat is entering a new phase of its development: after thought, analysis and planning, it is time for action. Because of the Total Quality approach the name of this phase is naturally: Qualistat for Eurostat. Qualistat is the implementation of the Corporate Plan in order to achieve the strategic goals defined in this plan. These goals state that Eurostat should be at the service of users, improve quality of its products and services, continue to develop the network of national statistical authorities - the European Statistical System, and motivate the staff to work more efficiently increasing the internal productivity.**

**Qualistat also stands for quality of statistics. In Eurostat, it is considered that the quality of statistics is made of seven components: relevance, accuracy, timeliness, accessibility, comparability, coherence, and completeness. The major theme of this newsletter is the quality of statistics. Articles in the newsletter mainly touch upon components like accuracy and timeliness. However, aspects of the Qualistat in its broader meaning are also considered.**

**The Edicom Intrastat Newsletter also informs on the application of thresholds in 1999 and provides various articles on Edicom projects.**

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## CONTINUING GROWTH IN INTRA-EU TRADE IN 1<sup>ST</sup> HALF 1998

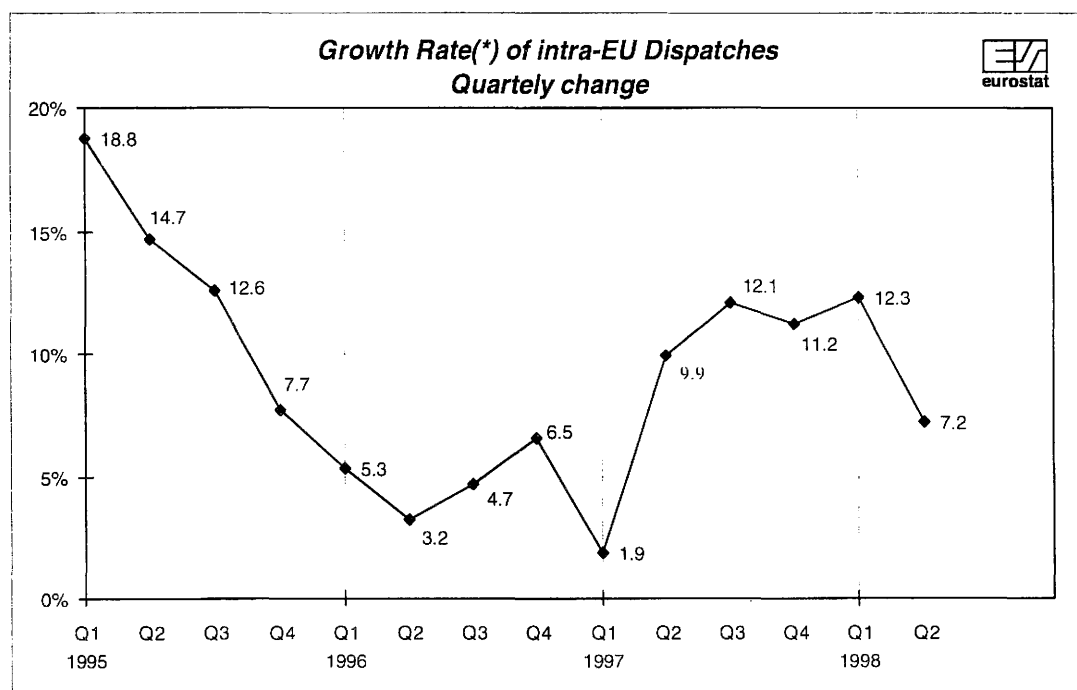
*In the first half of 1998 intra-EU trade, as measured by dispatches, totalled ECU 626 billion. Dispatches grew by +9.7% in this period compared with the same period of 1997; an increase on the +8.7% recorded in 1997 and the +4.9% in 1996, but still well short of the +13.0% recorded in 1995. There was a significant difference between the first quarter, when dispatches grew by +12.3% over the same period of 1997, and the second quarter, where the growth rate was only +7.2%.*

*Arrivals grew by +8.8% in the first half of 1998, following the same quarterly pattern as dispatches.*

### BELGIUM AND LUXEMBOURG



The Belgo-Luxembourg Economic Union (BLEU) had growth rates of +6.0% for dispatches and +3.1% for arrivals, below the overall EU growth rate for both flows.



(\*) The growth rate is calculated in comparison with the same period of the previous year.

The BLEU's main trading partners within the EU are Germany, France, the Netherlands and the UK, which together account for around 80% of dispatches and arrivals. For all these four partners dispatches grew more strongly than arrivals. Among the BLEU's other significant partners, trade with Italy grew strongly for both flows. The strongest growth, although from a very low base, was in trade with Ireland.

UK, accounting for over 60% of dispatches and arrivals. There was little or no growth in dispatches to these partners, while arrivals grew for all three. Strongest growth in dispatches was for trade with Finland and Spain, and in arrivals for trade with Austria.

more for dispatches and arrivals. These partners account for about 70% of dispatches and arrivals. Trade growth was moderate to strong with all these major partners, except the BLEU. Strongest growth in dispatches was for trade with Ireland, and with Finland for arrivals.

### DENMARK



Denmark recorded the second lowest growth rate of +2.3% for dispatches and below average growth of +7.1% for arrivals.

Denmark's main trading partners within the EU are Germany, Sweden and the

### GERMANY



Germany, which accounts for the biggest share of trade within the Community, recorded growth in dispatches of +12.4%, above the EU average, while arrivals grew by +8.8%, the EU average.

Germany's intra-EU trade is not particularly geographically concentrated, with 5 countries having shares of 10% or

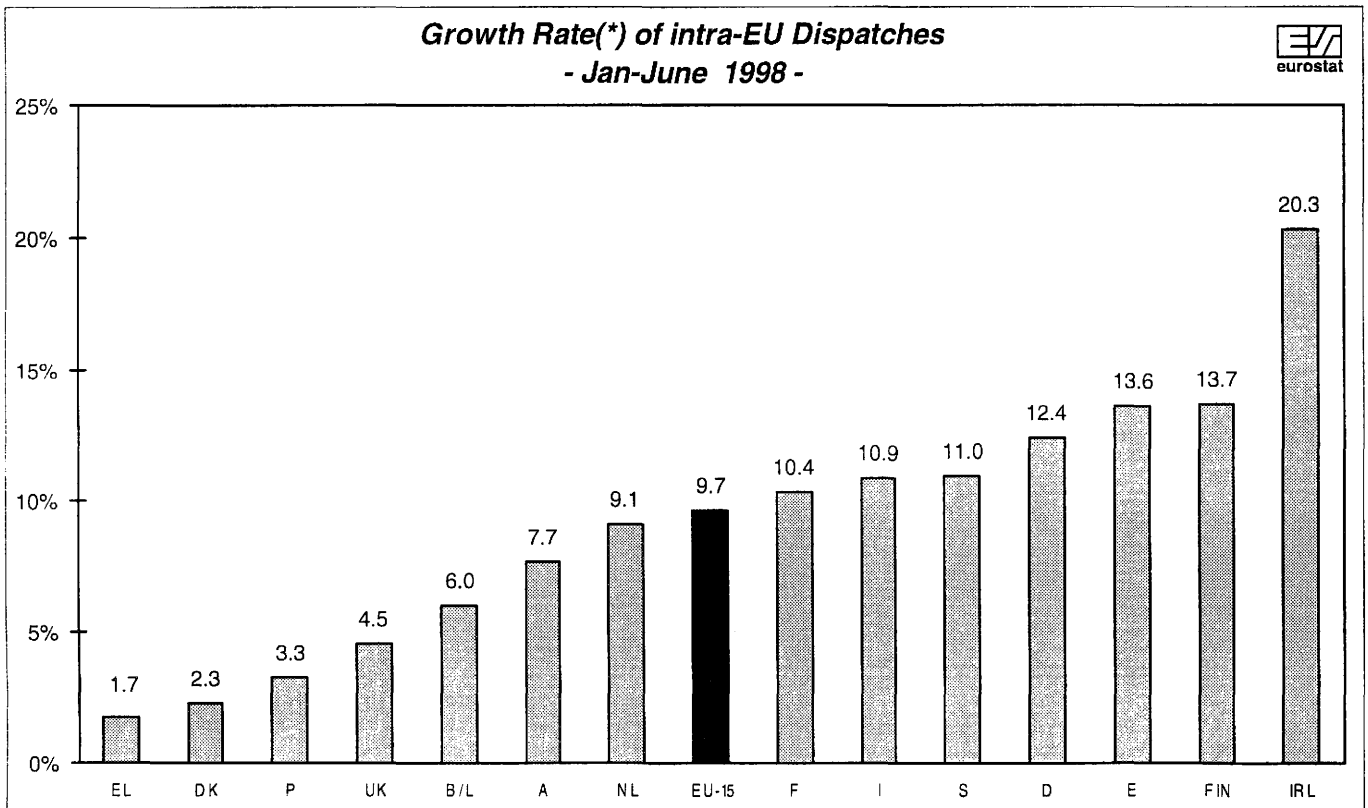
### GREECE



Greece's recorded the weakest growth in intra-EU trade, with growth rates of +1.7% for dispatches and +1.6% for arrivals.

Greek dispatches are very concentrated, with Germany and Italy receiving over 30% each, with the next largest partner, the UK, on only 11.7%. Arrivals are

Growth Rate(\*) of intra-EU Dispatches  
- Jan-June 1998 -



(\*) The growth rate is calculated in comparison with the same period of the previous year.

nearly as concentrated, with 60% coming from Italy, Germany and France. The picture for growth by partner is very diverse, with many flows falling or showing little growth, while others grew very strongly.

for dispatches and the UK for arrivals showed weak growth. Trade with Ireland had particularly high growth for both flows, while arrivals from Greece recorded the only fall.

dispatches to the BLEU and the Netherlands showed weak growth, while arrivals from the UK were static. Once again the strongest growth was in trade with Ireland.

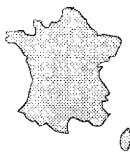
### SPAIN



Spanish intra-EU trade grew strongly during 1997, recording the highest figure for arrivals at +16.9%, and an above average result for dispatches at +13.6%.

85% of Spanish dispatches go to France, Germany, Italy, Portugal and the UK, while three quarters of arrivals come from France, Germany, Italy and the UK. Amongst these major partners only Italy

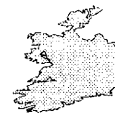
### FRANCE



France, which accounts for the second biggest share of trade between the Member States of the European Union, saw above average growth in dispatches (+10.4%) and arrivals (+12.3%).

French trade is split between six major partners, with Germany, the UK, Italy, Spain, the BLEU and the Netherlands accounting for about 90% of dispatches and arrivals. Amongst these partners,

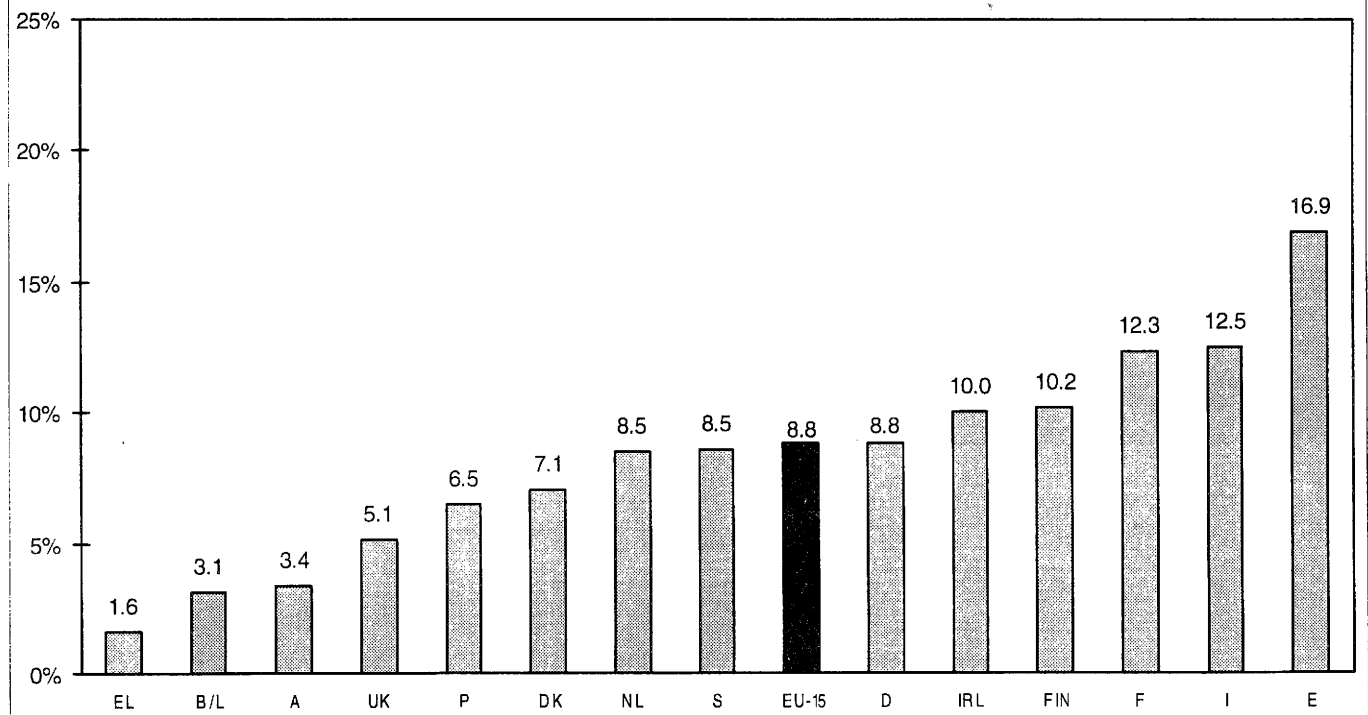
### IRELAND



Ireland had the highest growth in dispatches (+20.3%) and above average growth for arrivals (+10.0%).

Ireland's intra-EU trade is very concentrated, with one third of dispatches going to the UK and a further quarter to Germany. In arrivals the situation is more extreme still, with nearly two thirds coming from the UK. As a result Ireland's overall trade growth is highly depend-

Growth Rate(\*) of intra-EU Arrivals  
- Jan-June 1998 -



(\*) The growth rate is calculated in comparison with the same period of the previous year.

ent on flows with these two partners, with dispatches to Germany showing particularly good results.

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### ITALY

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Italy's growth in dispatches (+10.9%) and arrivals (+12.5%) were above the EU average.

Most of Italy's intra-EU trading is done with three partner countries - Germany, France and the United Kingdom, which account for two thirds of arrivals and 60% of dispatches. Growth in arrivals from all these partners was above the average, although for dispatches trade with Germany grew more slowly.

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### THE NETHERLANDS

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The Netherlands had below average growth in dispatches (+9.1%) and average growth in arrivals (+8.5%).

The Netherlands' main trading partners are Germany, the BLEU, the UK and France, which together account for over three quarters of its intra-EU trade. The growth rates for trade with all these partners were modest.

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### AUSTRIA

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Austria's intra-EU trade was characterised by below average growth rates for both dispatches (+7.7%), and particularly arrivals (+3.4%).

Austrian intra-EU trade is, like Ireland's, very highly concentrated, with 56% of dispatches going to Germany, and over 60% of arrivals coming from the same destination. Austria's low growth rates are therefore very closely linked to the slow growth in trade with Germany.

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### PORTUGAL

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Portugal had the third lowest growth rate for dispatches (+3.3%), and below average growth for arrivals (+6.5%).

Portugal's main trading partners within the EU are Germany, Spain, France and the UK. Growth in arrivals from all these main partners was generally weak, while reasonable growth in dispatches to Spain was offset by weak growth with France and static trade with Germany and the UK.

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### FINLAND

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Finland had above average growth for dispatches (+13.7%) and arrivals (+10.2%).

Approximately 55% of Finnish intra-EU trade is done with Germany, Sweden and the UK. On the dispatch side, the strong growth in trade with Germany and some smaller partners such as France and Italy offset the weak growth with Sweden and the UK. For arrivals, there was good growth

in trade with all Finland's important partners except the UK, where trade fell.

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### SWEDEN

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Sweden had above average growth for dispatches (+11.0%) and average growth for arrivals (+8.5%).

About 60% of Swedish intra-EU trade is with Germany, the UK, Denmark and the Netherlands. Growth in dispatches to all these partners was modest, while arrivals from Denmark and the Netherlands fell.

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### UNITED KINGDOM

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The United Kingdom had below average growth for both dispatches (+4.5%) and arrivals (+5.1%).

The UK's intra-EU trade is not particularly concentrated, with the three main trading partners, Germany, France and the Netherlands, accounting for only a little over 50% of dispatches and arrivals. Growth in trade with these partners was generally modest, with falls recorded for dispatches to the Netherlands and arrivals from Germany. Amongst the other partners there were no particularly high growth rates, and several flows fell.

**Table 1**  
**Evolution of intra-European Union trade (EU-15)**

(Mio.ECU)

	1994	1995		1996		1997		1998 Jan-June	
	Value	Value	95/94 %	Value	96/95 %	Value	97/96 %	Value	98/97 %
<b>Dispatches</b>									
<b>EU-15</b>	899 511	1016 754	13.0	1067 074	4.9	1159 996	8.7	625 885	9.7
<b>BLEU</b>	90 525	101 998	12.7	106 404	4.3	113 114	6.3	60 840	6.0
<b>Denmark</b>	23 004	25 922	12.7	26 981	4.1	29 029	7.6	14 492	2.3
<b>Germany</b>	208 169	232 722	11.8	237 061	1.9	250 533	5.7	138 203	12.4
<b>Greece</b>	4 516	5 080	12.5	4 975	-2.1	4 507	-9.4	2 347	1.7
<b>Spain</b>	42 970	50 827	18.3	57 287	12.7	60 718	6.0	34 624	13.6
<b>France</b>	130 142	145 033	11.4	149 665	3.2	165 256	10.4	89 966	10.4
<b>Ireland</b>	20 994	25 274	20.4	27 110	7.3	32 304	19.2	19 069	20.3
<b>Italy</b>	92 528	102 384	10.7	110 161	7.6	114 764	4.2	61 723	10.9
<b>Netherlands</b>	105 838	124 167	17.3	129 287	4.1	142 690	10.4	74 706	9.1
<b>Austria</b>	24 513	29 036	18.4	29 405	1.3	32 692	11.2	17 145	7.7
<b>Portugal</b>	12 092	13 952	15.4	15 623	12.0	16 380	4.8	8 629	3.3
<b>Finland</b>	14 553	17 787	22.2	17 651	-0.8	19 451	10.2	11 011	13.7
<b>Sweden</b>	30 442	36 629	20.3	38 196	4.3	40 604	6.3	22 090	11.0
<b>United Kingdom</b>	99 224	105 945	6.8	117 268	10.7	137 954	17.6	71 039	4.5
<b>Arrivals</b>									
<b>EU-15</b>	859 284	971 642	13.1	1021 973	5.2	1100 670	7.7	587 651	8.8
<b>BLEU</b>	80 060	89 063	11.2	95 196	6.9	100 487	5.6	52 475	3.1
<b>Denmark</b>	20 809	25 221	21.2	25 169	-0.2	27 898	10.8	14 494	7.1
<b>Germany</b>	189 960	214 119	12.7	218 063	1.8	228 257	4.7	122 623	8.8
<b>Greece</b>	12 276	13 879	13.1	14 328	3.2	14 449	0.8	7 118	1.6
<b>Spain</b>	49 611	59 467	19.9	66 128	11.2	67 275	1.7	38 330	16.9
<b>France</b>	134 545	151 471	12.6	156 651	3.4	165 673	5.8	91 517	12.3
<b>Ireland</b>	14 202	15 978	12.5	18 004	12.7	21 243	18.0	11 569	10.0
<b>Italy</b>	86 263	95 845	11.1	100 188	4.5	111 346	11.1	60 550	12.5
<b>Netherlands</b>	77 878	89 495	14.9	91 976	2.8	96 454	4.9	50 846	8.5
<b>Austria</b>	31 792	38 439	20.9	40 129	4.4	42 564	6.1	21 376	3.4
<b>Portugal</b>	16 716	18 436	10.3	21 152	14.7	22 273	5.3	11 919	6.5
<b>Finland</b>	10 727	14 647	36.5	16 150	10.3	17 934	11.0	9 504	10.2
<b>Sweden</b>	27 133	34 125	25.8	36 118	5.8	39 119	8.3	20 560	8.5
<b>United Kingdom</b>	107 315	111 457	3.9	122 722	10.1	145 698	18.7	74 769	5.1

Source : COMEXT2 and information transmitted by the Member States up to 7.10.1998

**Table 2**  
**Quarterly evolution of intra-European Union trade (EU-15)**

(Mio.ECU)

	Q2 97		Q3 97		Q4 97		Q1 98		Q2 98	
	Value	97/96 %	Value	97/96 %	Value	97/96 %	Value	98/97 %	Value	98/97 %
<b>Dispatches</b>										
<b>EU-15</b>	<b>293 838</b>	<b>9.9</b>	<b>279 389</b>	<b>12.1</b>	<b>309 954</b>	<b>11.2</b>	<b>310 793</b>	<b>12.3</b>	<b>315 092</b>	<b>7.2</b>
<b>BLEU</b>	29 313	7.7	27 474	9.4	28 237	5.3	30 037	6.9	30 803	5.1
<b>Denmark</b>	7 262	11.4	7 120	7.0	7 744	6.4	7 503	8.7	6 988	-3.8
<b>Germany</b>	63 123	7.1	60 855	8.1	66 736	8.5	67 553	12.9	70 650	11.9
<b>Greece</b>	1 255	-0.1	1 095	-7.9	1 105	-11.7	1 165	10.6	1 183	-5.7
<b>Spain</b>	16 173	9.3	13 132	6.0	17 116	10.5	16 971	18.7	17 653	9.2
<b>France</b>	41 570	10.9	38 901	12.8	44 829	15.6	45 492	13.9	44 474	7.0
<b>Ireland</b>	8 114	17.6	7 636	26.4	8 812	21.3	8 762	13.2	10 307	27.0
<b>Italy</b>	29 561	5.7	28 471	11.7	30 619	7.8	29 681	13.7	32 042	8.4
<b>Netherlands</b>	35 497	11.9	35 089	13.4	39 125	14.8	38 044	15.4	36 662	3.3
<b>Austria</b>	4 233	6.3	3 882	5.6	4 143	5.2	4 349	5.5	4 280	1.1
<b>Portugal</b>	8 196	11.6	8 037	11.8	8 735	18.7	8 461	9.6	8 684	6.0
<b>Finland</b>	5 112	9.2	4 596	12.6	5 169	11.9	5 430	18.7	5 582	9.2
<b>Sweden</b>	10 192	2.8	9 717	13.5	10 978	11.3	11 016	13.4	11 074	8.7
<b>United Kingdom</b>	34 238	19.3	33 384	22.5	36 607	14.5	36 329	7.7	34 710	1.4
<b>Arrivals</b>										
<b>EU-15</b>	<b>280 232</b>	<b>9.7</b>	<b>263 536</b>	<b>10.6</b>	<b>297 005</b>	<b>9.8</b>	<b>290 974</b>	<b>12.0</b>	<b>296 676</b>	<b>5.9</b>
<b>BLEU</b>	25 860	7.7	23 155	4.5	26 431	9.4	26 170	4.5	26 304	1.7
<b>Denmark</b>	7 028	13.3	6 755	13.3	7 604	12.7	7 439	14.3	7 055	0.4
<b>Germany</b>	57 769	7.1	54 682	6.3	60 894	6.0	60 733	10.6	61 890	7.1
<b>Greece</b>	3 797	2.0	3 583	-0.1	3 858	-1.7	3 526	9.8	3 592	-5.4
<b>Spain</b>	17 576	3.8	15 262	2.8	19 232	6.2	18 542	21.9	19 788	12.6
<b>France</b>	41 654	5.9	39 323	8.4	44 887	10.9	45 511	14.3	46 007	10.4
<b>Ireland</b>	5 213	14.5	5 078	24.4	5 650	15.6	5 617	5.9	5 952	14.2
<b>Italy</b>	29 112	15.9	26 194	21.0	31 340	13.9	29 532	19.6	31 018	6.5
<b>Netherlands</b>	24 551	8.2	23 378	6.4	26 221	8.9	25 280	13.3	25 567	4.1
<b>Austria</b>	5 789	9.4	5 168	6.3	5 911	-0.4	5 986	10.7	5 933	2.5
<b>Portugal</b>	10 571	5.8	10 731	7.4	11 152	10.3	10 478	3.7	10 899	3.1
<b>Finland</b>	4 489	12.6	4 313	15.2	4 997	12.2	4 688	13.4	4 815	7.3
<b>Sweden</b>	9 699	7.4	9 209	11.4	10 967	9.6	10 200	10.3	10 360	6.8
<b>United Kingdom</b>	37 123	20.8	36 707	24.8	37 860	16.1	37 273	9.6	37 496	1.0

Source : COMEXT2 and information transmitted by the Member States up to 7.10.1998



**Table 3**  
**Structure of intra-European Union trade (EU-15)**  
**by principal product groups - January - June 1998**

(Mio.ECU)

Reporting Countries	Foods, beverages, tobacco SITC 0+1		Raw materials SITC 2+4		Fuel products SITC 3		Chemicals SITC 5		Machinery, transport equipment SITC 7		Other manufactured goods SITC 6+8		Other SITC9 + adjustments	
	Value	Evolution 98/97 %	Value	Evolution 98/97 %	Value	Evolution 98/97 %	Value	Evolution 98/97 %	Value	Evolution 98/97 %	Value	Evolution 98/97 %	Value	Evolution 98/97 %
<b>Dispatches</b>														
BLEU	6 873	7.5	1 888	4.4	1 316	-14.8	11 919	15.6	18 743	9.6	19 621	7.8	480	-76.5
DK	3 289	1.0	637	-1.0	458	-34.2	1 348	6.2	3 698	5.9	4 172	5.3	891	5.3
D	7 289	11.6	3 081	10.0	1 652	-0.7	16 927	7.0	64 339	14.7	34 016	13.1	10 899	9.7
EL	532	-7.1	251	-20.8	24	-70.4	80	0.8	147	14.4	1 262	18.6	52	-22.1
E	5 517	6.8	1 132	-0.1	621	11.0	2 590	12.1	15 509	16.6	8 937	15.7	319	15.4
F	11 244	0.4	2 557	4.0	1 830	-4.7	12 703	10.4	39 063	15.6	22 317	8.9	252	63.7
IRL	2 037	5.1	313	-2.1	80	-14.7	6 031	59.3	6 405	12.7	2 954	-4.2	1 250	31.2
I	4 089	4.8	803	4.5	446	34.3	5 348	8.8	23 634	14.6	26 861	8.8	543	23.2
NL	7 564	-22.5	4 536	0.2	3 820	-27.0	6 589	-30.4	16 271	-8.5	10 988	-18.7	24 939	204.8
A	806	12.5	794	12.8	122	9.8	1 450	4.2	6 727	5.5	6 988	5.8	258	2 220.9
P	480	3.1	407	1.6	61	-34.9	405	17.0	2 962	6.4	4 309	1.2	6	-21.4
FIN	150	-10.6	1 017	0.1	228	-11.6	670	12.7	3 748	27.1	5 072	10.5	126	10.8
S	563	6.3	1 760	-6.0	449	-20.2	1 848	-2.6	8 928	14.7	7 092	5.1	1 451	178.4
UK	4 371	1.4	1 262	2.9	4 356	-21.2	9 645	6.8	32 489	10.2	16 707	-3.5	2 207	107.6
<b>Arrivals</b>														
BLEU	5 195	4.3	1 947	-7.7	3 041	-16.6	9 260	17.4	17 479	6.6	15 414	5.7	137	-89.5
DK	1 428	4.1	645	5.1	218	-11.4	1 830	9.3	5 273	5.5	4 862	9.9	237	14.7
D	11 797	6.5	4 382	11.7	4594.7	-16.1	12 782	12.4	41 786	10.9	30 392	10.4	16 889	8.2
EL	1 171	-4.9	160	-7.6	53	-9.2	1 153	-4.5	2 430	14.6	2 141	-2.8	10	-29.7
E	3 295	12.0	1 276	10.3	465	22.5	5 262	14.6	17 622	19.0	10 185	16.3	225	50.7
F	8 653	6.0	2 583	8.0	1 884	-25.2	12 098	12.6	38 884	18.3	27 247	10.3	168	171.1
IRL	1 083	4.6	217	4.1	292	-11.8	1 443	-10.3	4 524	26.4	2 864	3.4	1 146	16.7
I	6 748	7.7	3 339	2.2	732	6.0	9 702	9.8	24 158	17.6	15 289	13.2	582	-16.4
NL	3 417	-28.7	1 273	-21.0	1 171	-26.9	3 960	-30.8	13 440	-6.4	8 440	-25.0	19 145	154.4
A	1 364	-3.1	752	2.3	340	7.5	2 589	6.6	8 144	-1.3	7 756	3.3	430	1 239.6
P	1 189	6.9	352	5.8	274	8.0	1 408	3.6	4 652	7.0	4 013	7.3	31	-32.7
FIN	626	5.5	358	2.7	285	-8.0	1 340	5.5	4 243	17.9	2 435	7.1	218	-5.3
S	1 248	3.4	566	7.9	600	-29.9	2 413	6.8	8 870	10.3	5 287	4.8	1 575	56.1
UK	7 195	-2.4	2 004	-2.1	972	-0.2	9 327	3.4	33 299	5.7	19 240	1.2	2 732	124.3

Source : COMEXT2 and information transmitted by the Member States up to 7.10.1998

**Table 4**  
**Structure of intra-European Union trade (EU-15)**  
**by partner countries - January - June 1998 -**

(%)

REPORTING COUNTRIES	PARTNER COUNTRIES														
	BLEU	DK	D	EL	E	F	IRL	I	NL	A	P	FIN	S	UK	TOTAL
	<b>Dispatches</b>														
<i>BLEU</i>	-	1.2	25.7	0.8	4.5	23.4	0.7	8.0	16.8	1.5	1.1	0.8	2.2	13.3	100.0
<i>Denmark</i>	3.3	-	31.6	1.3	3.6	8.3	1.0	5.8	7.1	1.5	0.8	4.7	16.9	14.2	100.0
<i>Germany</i>	10.0	3.0	-	1.2	7.1	19.7	1.0	13.6	12.4	9.2	2.0	1.7	4.0	15.2	100.0
<i>Greece</i>	2.3	1.2	30.1	-	3.3	7.8	0.6	31.3	5.5	2.2	1.2	0.8	2.0	11.7	100.0
<i>Spain</i>	3.9	1.0	19.3	1.3	-	27.9	0.8	13.5	4.9	1.2	12.3	0.5	1.5	11.9	100.0
<i>France</i>	11.9	1.5	25.7	1.2	13.4	-	1.1	15.2	6.9	1.7	2.4	0.8	2.3	15.9	100.0
<i>Ireland</i>	7.8	1.2	24.1	0.4	3.8	11.9	-	4.8	8.2	0.8	0.6	0.7	2.5	33.2	100.0
<i>Italy</i>	4.9	1.5	28.9	3.5	10.2	23.1	0.7	-	5.1	4.0	2.5	0.9	1.9	12.8	100.0
<i>Netherlands</i>	15.9	2.1	34.9	1.0	4.1	13.4	1.0	7.7	-	2.0	1.1	1.3	3.0	12.5	100.0
<i>Austria</i>	2.9	1.2	56.1	0.7	3.9	6.8	0.6	14.2	4.2	-	0.7	0.9	1.8	6.0	100.0
<i>Portugal</i>	6.0	1.9	24.3	0.5	18.8	17.9	0.5	5.3	5.9	1.2	-	0.8	2.4	14.5	100.0
<i>Finland</i>	4.5	5.0	20.6	2.5	4.5	9.4	1.3	7.0	7.7	2.2	1.0	-	17.0	17.6	100.0
<i>Sweden</i>	7.9	10.8	20.2	1.0	4.3	9.1	1.4	6.1	10.4	1.8	1.0	9.6	-	16.4	100.0
<i>United Kingdom</i>	8.7	2.1	21.5	1.1	7.3	17.1	9.9	9.3	13.7	1.2	1.7	1.6	4.8	-	100.0
	<b>Arrivals</b>														
<i>BLEU</i>	-	0.8	25.2	0.2	2.7	19.1	2.9	5.9	24.1	0.9	0.8	1.0	3.9	12.4	100.0
<i>Denmark</i>	5.0	-	30.8	0.2	2.0	8.0	1.5	6.6	10.4	1.5	1.3	3.6	18.3	10.8	100.0
<i>Germany</i>	11.6	3.0	-	0.7	6.1	19.8	1.9	13.0	18.7	6.8	1.8	1.7	3.2	11.7	100.0
<i>Greece</i>	5.5	2.2	22.6	-	7.4	13.9	1.1	23.5	9.0	1.5	0.4	1.8	2.6	8.5	100.0
<i>Spain</i>	5.5	1.1	22.9	0.2	-	27.8	1.9	13.6	7.3	1.5	4.1	1.2	1.9	11.0	100.0
<i>France</i>	14.5	1.3	28.1	0.2	10.4	-	2.3	14.7	10.5	1.2	1.7	0.9	1.9	12.3	100.0
<i>Ireland</i>	2.3	1.0	11.1	0.1	1.8	6.6	-	2.8	5.9	0.3	0.4	1.2	1.6	64.9	100.0
<i>Italy</i>	7.9	1.3	30.1	0.9	7.5	21.6	1.7	-	10.1	3.8	0.8	1.1	2.4	10.6	100.0
<i>Netherlands</i>	17.4	1.6	33.2	0.2	4.2	11.5	2.2	5.7	-	1.2	1.0	1.5	4.4	15.9	100.0
<i>Austria</i>	3.9	0.9	61.7	0.2	1.6	6.6	0.6	11.1	6.8	-	0.4	0.8	1.8	3.5	100.0
<i>Portugal</i>	4.3	0.8	19.7	0.2	30.4	14.8	0.9	10.6	6.0	0.7	-	0.9	1.6	9.0	100.0
<i>Finland</i>	5.0	8.3	23.3	0.2	2.4	6.9	1.3	6.2	9.7	1.5	0.8	-	23.8	10.5	100.0
<i>Sweden</i>	5.9	9.7	28.1	0.2	2.5	9.5	2.2	5.0	10.0	2.4	1.0	8.1	-	15.3	100.0
<i>United Kingdom</i>	9.3	2.1	24.8	0.3	5.9	17.9	7.4	9.8	12.7	1.3	1.7	2.3	4.3	-	100.0

Source : COMEXT2 and information transmitted by the Member States up to 9.10.1998

## DATA AVAILABILITY

### STATUS OF DATA SENT TO EUROSTAT ON 20 NOVEMBER 1998

Information on **extra-EU trade** is generally collected by the Member States by means of the statistical form of the customs declaration (SAD).

Information on **intra-EU trade** is collected by the Member States using various media available by the information providers. These may be the Intrastat

forms made available pursuant to Commission Regulation (EEC) No 3590/92 or other media (including electronic media) provided for at national level. France and Italy also use the form for tax purposes.

The transmission deadlines are as follows:

- for extra-EU trade: six weeks after the end of the reference month;
- for intra-EU trade: eight weeks after the end of the month to which the results refer in the case of overall results (broken down by trading partner), or 10 weeks in the case of detailed results.

#### Differences in working days between the deadline and the receipt date for the global INTRA data with breakdown by partner country

Data for the month of ..... for the year 1998

Deadline	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Position
	30 march 1998	30 april 1998	5 june 1998	3 july 1998	29 july 1998	26 august 1998	28 sept. 1998	27 oct. 1998	27 nov. 1998	7 jan. 1998	4 feb. 1999	1st march 1999	
BLEU	29	18	10	10	15	19	15	15					☹
DK	17	13	13	17	27	26	16	14					☹
D	7	7	5	7	0	1	2	2					☺
EL	23	29	19	42	54	26	30						☹
E	15	4	-3	-3	-1	13	8	13					☺
F	8	4	5	4	8	8	7	7					☺
IRL	56	43	38	42	42	42	42						☹
I	35	28	20	38	44	43	37						☹
NL	42	29	20	17	28	51	25	23					☹
A	28	19	12	10	12	36	21	23					☹
P	31	20	17	53	17	26	25						☹
FIN	17	18	13	13	16	19	21	23					☹
S	43	39	21	34	26	36	28						☹
UK	8	13	5	3	6	19	-13	-41					☺

**Legend:**

Negative value: receipt early

☺ data received more or less on time

Positive value: receipt late

☺☺ data received always on time

☹ data received after the deadline

**Differences in working days between the deadline and the receipt date  
for detailed INTRA data (CN8)**

Data for the month of ..... for the year 1998

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	
Deadline	16 april 1998	15 may 1998	19 june 1998	17 july 1998	12 august 1998	10 sept. 1998	14 oct. 1998	12 nov. 1998	11 dec. 1998	20 jan. 1999	4 feb. 1999	12 march 1999	Position
BLEU	8	1	-4	-4	1	2	-1	-1					😊
DK	0	-2	-1	1	9	7	0	-2					😊
D	-2	22	-4	1	-3	-3	-7	3					😊
EL	4	8	2	20	27	7	10						😞
E	-2	-9	-13	-13	-11	-2	-6	-3					😊😊
F	-4	-9	-7	-8	-4	-5	-7	-7					😊😊
IRL	24	17	15	20	19	19	18						😞
I	11	7	3	16	21	20	15						😞
NL	16	8	3	1	10	26	7	5					😞
A	7	2	-2	-4	-2	15	3	5					😊
P	13	8	9	27	13	26	15						😞
FIN	0	1	-1	-1	2	2	3	5					😊
S	17	13	4	14	8	15	8						😞
UK	-4	-2	-7	-9	-6	2	-21	-41					😊😊

**Differences in working days between the deadline and the receipt date  
for detailed EXTRA data (CN8)**

Data for the month of ..... for the year 1998

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	
Deadline	16 march 1998	16 april 1998	19 may 1998	18 june 1998	15 july 1998	12 august 1998	15 sept. 1998	14 oct. 1998	13 nov. 1998	15 dec. 1998	21 jan. 1999	12 feb. 1999	Position
BLEU	0	8	-1	3	1	5	3	1					😊
DK	8	2	-1	0	1	7	4	1	-3				😊
D	19	11	11	16	13	14	9	7					😞
EL	24	8	6	11	22	27							😞
E	18	11	7	7	9	18	15	18					😞
F	16	11	13	12	16	15	14	14					😞
IRL	5	1	2	2	-2	3	-1	-1	1				😊
I	6	11	2	4	18	21	17						😞
NL	36	28	23	21	30	46	28	26					😞
A	18	0	2	6	8	35	12	8	4				😞
P	3	1	1	-3	1	8	6	7					😊
FIN	5	0	-1	0	1	3	-1	3	3				😊
S	45	21	19	21	24	35	21	26					😞
UK	-1	-2	-11	-8	-8	-6	-8	-7	-8				😊😊

**Legend:**

Negative value: receipt early

Positive value: receipt late

😊 data received more or less on time

😊😊 data received always on time

😞 data received after the deadline

## STATISTICAL THRESHOLDS FOR 1999 APPLICABLE FOR THE INTRASTAT DECLARATION

### 1. Threshold values in national currency

<i>Member States</i>	<i>Currency</i>	<i>Assimilation threshold</i>		<i>Simplification threshold</i>		<i>"Statistical value" threshold</i>	
		<i>Dispatch</i>	<i>Arrival</i>	<i>Dispatch</i>	<i>Arrival</i>	<i>Dispatch</i>	<i>Arrival</i>
<b>Belgium (B)</b>	BEF	10,000,000	10,000,000	----	----	All PSI exempted	All PSI exempted
<b>Denmark (DK)</b>	DKK	2,500,000	1,500,000	----	----	All PSI exempted	All PSI exempted
<b>Germany (D)</b>	DEM	394,885	394,885	----	----	20,000,000	15,000,000
<b>Greece (EL)</b>	GRD	15,000,000	10,000,000	----	----	675,000,000	302,000,000
<b>Spain (ES)</b>	ESP	16,000,000	16,000,000	----	----	1,000,000,000	1,000,000,000
<b>France (F)</b>	FRF	250,000	250,000	3,000,000	1,500,000	15,000,000	15,000,000
<b>Ireland (IRL)</b>	IEP	500,000	100,000	----	----	30,000,000	4,000,000
<b>Italy (I)</b>	ITL	300,000,000	200,000,000	----	----	7,000,000,000	3,500,000,000
<b>Luxembourg (L)</b>	LUF	4,200,000	4,200,000	15,000,000	15,000,000	180,000,000	100,000,000
<b>Netherlands (NL)</b>	NLG	500,000	500,000	----	----	All PSI exempted	All PSI exempted
<b>Austria (A)</b>	ATS	1,500,000	1,500,000	----	----	50,000,000	50,000,000
<b>Portugal (P)</b>	PTE	17,000,000	12,000,000	----	----	1,010,000,000	640,000,000
<b>Finland (FIN)</b>	FIM	600,000	600,000	----	----	100,000,000	40,000,000
<b>Sweden (S)</b>	SEK	1,500,000	1,500,000	----	----	100,000,000	60,000,000
<b>United Kingdom (UK)</b>	GBP	230,000	230,000	----	----	All PSI exempted	All PSI exempted

## 2. Threshold values in ECU

(ECU)

Member States	Assimilation threshold		Simplification threshold		"Statistical value" threshold	
	Dispatch	Arrival	Dispatch	Arrival	Dispatch	Arrival
<b>Belgium (B)</b>	245,500	245,500	----	----	All PSI exempted	All PSI exempted
<b>Denmark (DK)</b>	332,500	199,500	----	----	All PSI exempted	All PSI exempted
<b>Germany (D)</b>	200,000	200,000	----	----	10,129,000	7,598,000
<b>Greece (EL)</b>	45,500	30,500	----	----	2,050,000	917,000
<b>Spain (ES)</b>	95,500	95,500	----	----	5,969,000	5,969,000
<b>France (F)</b>	38,000	38,000	453,500	226,500	2,266,000	2,266,000
<b>Ireland (IRL)</b>	636,000	127,000	----	----	38,154,000	5,087,000
<b>Italy (I)</b>	154,000	102,500	----	----	3,595,000	1,797,000
<b>Luxembourg (L)</b>	103,000	103,000	368,500	368,500	4,419,000	2,455,000
<b>Netherlands (NL)</b>	224,500	224,500	----	----	All PSI exempted	All PSI exempted
<b>Austria (A)</b>	108,000	108,000	----	----	3,599,000	3,599,000
<b>Portugal (P)</b>	84,000	59,500	----	----	4,996,000	3,166,000
<b>Finland (FIN)</b>	100,000	100,000	----	----	16,681,000	6,672,000
<b>Sweden (S)</b>	172,500	172,500	----	----	11,487,000	6,892,000
<b>United Kingdom (UK)</b>	346,000	346,000	----	----	All PSI exempted	All PSI exempted

## DISCREPANCIES AND ADJUSTMENTS IN MIRROR STATISTICS

The main features of the Intrastat collection system for compiling intra-EU trade data are:

- a system of thresholds which eliminates statistical formalities for almost two-thirds of companies;
- a system whereby statistical declarations are sent directly by companies to the competent national authorities.

The introduction of this new system has resulted in most of the Member States having to cope with a loss of information (because of the thresholds which exclude the smaller companies) and with the effect of non-response by some companies (estimated at approximately 10% of the total number of companies at Community level, which represents a loss of 3-4% in value terms).

To correct this under-evaluation, which varies in the different Member States, some of them adjust their data.

### ADJUSTMENT OF INTRASTAT DATA

Currently, ten Member States adjust their data: Belgium-Luxembourg, Denmark, Germany, Ireland, the Netherlands, Austria, Finland, Sweden and the United Kingdom.

These adjustments are generally made to the aggregate figures, with or without a breakdown by partner country. They are more rarely available at the chapter level of individual items or broken down by the Combined Nomenclature eight-digit codes (see Table 1).

Table 1: Adjustment of Intrastat data

Country	Period	Level of adjustment	Data Set	Product code used to submit data	Product code in COMEXT	Distinction between adjustments for non-response and for thresholds
BLEU	1993-97 1996	Total by partner country 8 CN digits	Intra Trade Adjusted Data EEC Special Trade	- CN Codes	- CN Codes	No No
DK	1993-95 1996-98	Total without breakdown (959) 8 CN digits	Intra Trade Adjusted Data EEC Special Trade	- CN Codes	- CN Codes	No No
D	1993-98	Total by partner country	EEC Special Trade	99990001 99990002 99990003	99YY000	Yes
EL	-	-	-	-	-	-
E	-	-	-	-	-	-
F	-	-	-	-	-	-
IRL	1993-98	Total by partner country	EEC Special Trade	99699999	99YY000	No
I	-	-	-	-	-	-
NL	1993-96 1997-98	Total by partner country Chapter level	Intra Trade Adjusted Data EEC Special Trade	- xx990000 (Chapter xx)	- xxMM000 (Chapter xx)	No No
A	1995-98	8 CN digits	EEC Special Trade	CN Codes	CN Codes	No
P	-	-	-	-	-	-
FIN	1997-98	Total without breakdown (959)	EEC Special Trade	99699999	99YY000	No
S	1995-98	Total without breakdown (959)	EEC Special Trade	99699999	99YY000	No
UK	1993-97 1993-98	Total without breakdown (959) Total by partner country	EEC Special Trade Intra Trade Adjusted Data	99699999 -	99YY000 -	No Yes

959: Non-specified intra-EU Countries and Territories

99yyyy000: Adjustment for non-response and commerce under the registration thresholds

1091: Other (countries not specified) intra-UE trade not classified

Comments on methodologies:

- It is currently impossible to distinguish adjustments made to compensate for companies that do not reply from those applied to compensate for the effect of the thresholds (with the exception of the United Kingdom for the global results and of Germany for the detailed results);
- The time series tracking the adjustments applied by the Member States between 1993 and 1998

must be interpreted with caution: the adjustments made at the level of the Combined Nomenclature eight-digit codes can still not yet be identified. This means that the adjustments made by BLEU, Denmark and Austria cannot be used for all or part of the 1993-98 period.

Eurostat is currently working on a solution that would allow the adjustments applied to be identified in detail.

**TOTAL  
ADJUSTMENTS**

During the 1993-97 period, the adjustments applied by Member States to intra-EU imports ranged between ECU 18.3 and 54.0 billion (which represented between 2.2% and 5.2% of annual arrivals), while for exports they varied between ECU 15.1 and 41.1 billion (between 1.7% and 3.7% of annual dispatches).

Table 2: Adjustments applied for non-response and commerce below the threshold

	ADJUSTMENTS APPLIED TO ARRIVALS						ADJUSTMENTS APPLIED TO DISPATCHES					
	1993	1994	1995	1996	1997	Q1/98	1993	1994	1995	1996	1997	Q1/98
	<b>Billion ECU</b>											
<b>European Union</b>	<b>30.1</b>	<b>18.3</b>	<b>37.5</b>	<b>38.1</b>	<b>54.0</b>	<b>20.3</b>	<b>24.6</b>	<b>15.1</b>	<b>29.5</b>	<b>32.6</b>	<b>41.1</b>	<b>20.1</b>
BLEU	4.5	2.8	2.2	1.9	0.9	N.I.	0.4	1.4	1.3	1.1	-0.1	0.0
Denmark	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Germany	9.3	5.4	14.7	14.4	29.2	7.9	7.2	4.8	9.3	11.9	17.6	4.8
Greece	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	1.2	1.3	1.5	1.6	1.6	0.5	1.1	0.6	0.6	0.6	0.7	0.2
Italy	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	12.1	6.3	15.0	15.4	17.4	10.3	13.5	6.4	15.2	15.7	19.3	14.0
Austria	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Portugal	-	-	-	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	0.5	0.1	-	-	-	-	0.2	0.1
Sweden	-	-	2.4	2.0	2.3	0.7	-	-	1.8	1.2	1.4	0.4
United Kingdom	3.1	2.4	1.8	2.8	2.2	0.8	2.3	1.9	1.3	2.1	1.9	0.7
	<b>Percentage (%)</b>											
<b>European Union</b>	<b>4.0%</b>	<b>2.2%</b>	<b>4.0%</b>	<b>3.9%</b>	<b>5.2%</b>	<b>7.4%</b>	<b>3.2%</b>	<b>1.7%</b>	<b>3.0%</b>	<b>3.2%</b>	<b>3.7%</b>	<b>6.9%</b>
BLEU	6.3%	3.6%	2.5%	2.0%	0.9%	N.I.	0.5%	1.6%	1.3%	1.1%	0.0%	N.I.
Denmark	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Germany	5.7%	2.9%	7.4%	7.1%	14.7%	15.0%	3.9%	2.3%	4.1%	5.3%	7.6%	7.6%
Greece	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	10.8%	10.5%	10.0%	9.5%	8.1%	8.9%	6.8%	3.0%	2.6%	2.4%	2.2%	2.7%
Italy	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	21.1%	8.8%	20.1%	20.2%	21.9%	68.8%	16.9%	6.4%	13.9%	13.8%	15.7%	58.0%
Austria	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Portugal	-	-	-	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	2.6%	2.3%	-	-	-	-	1.0%	0.9%
Sweden	-	-	7.5%	5.8%	6.2%	7.8%	-	-	5.2%	3.2%	3.5%	3.7%
United Kingdom	3.4%	2.3%	1.6%	2.3%	1.6%	2.1%	2.7%	2.0%	1.3%	1.8%	1.4%	2.0%

N.I.: Non-identifiable adjustments

Source: Comext2 Extraction: 14/10/1998

DataSet: EEC SPECIAL TRADE SINCE 1988

DataSet: INTRA TRADE ADJUSTED DATA

DataSet: IMF WORLD TRADE SINCE 1958



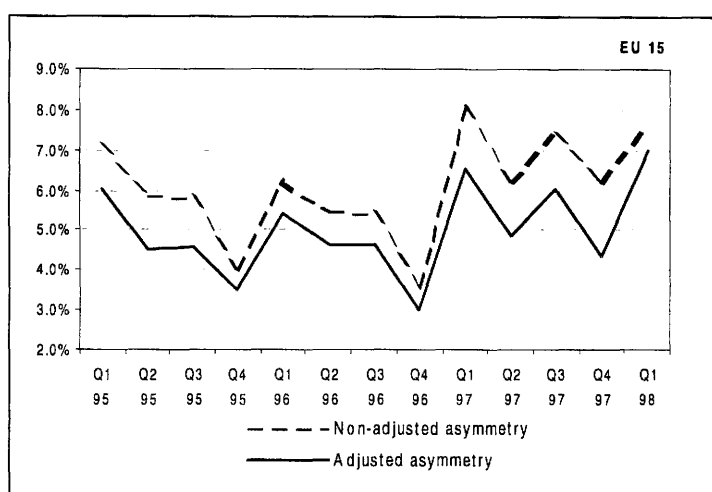
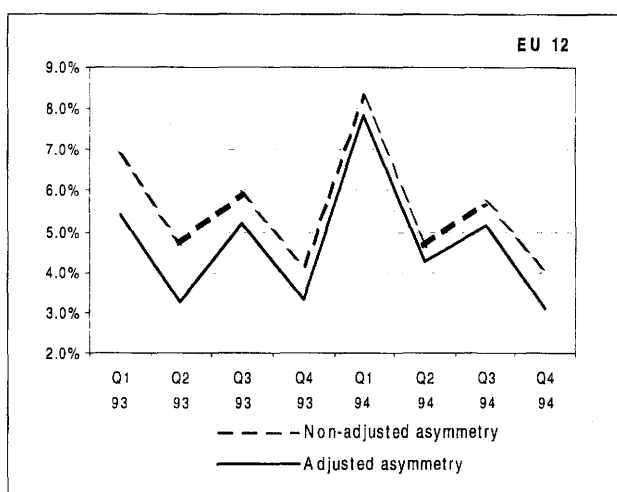
Over these five years, the annual adjustments applied to EU arrivals were systematically higher than those applied to dispatches (on average 24%), which seems to indicate that intra-EU arrivals are particularly affected by under-estimation. These adjustments

can have an appreciable impact on intra-EU asymmetries: we can thus observe up to almost 2% discrepancy between adjusted and non-adjusted asymmetries (see diagram on next page).

At an EU level the adjustments system-

atically reduce the discrepancies between mirror flows, whether annual or quarterly.

For the EU-12 as for EU-15, seasonal variation in the asymmetries can also be observed.



It can be seen that the asymmetry in the first quarter is always either the largest, or very close to the largest discrepancy for a given year.

The asymmetry observed during the last quarter is always either the smallest, or very close to the smallest discrepancy for a given year. The last quarter is also that in which the volume of intra-EU trade is greatest. The reduction of the divergence can be explained by a higher growth rate in arrivals than dispatches.

There is always an increase in asymmetry between the last quarter of a given year and the first quarter of the following year. It is the only case where an increase in the level of arrivals and dispatches leads to an increase in asymmetry. This phenomenon can be explained by a higher growth rate in dispatches than arrivals.

It is very difficult to identify one or more Member States to explain this sea-

sonal variation: from one year to the next, it is not the same countries influencing trade to produce the trends observed.

### ADJUSTMENTS AT PARTNER COUNTRY LEVEL

At Member State level, the annual rates of adjustment are very similar, ranging from 0.9% to 21.9% for arrivals and from 0.5% to 16.9% for dispatches (see Table 2).

The Netherlands applies the highest adjustment rates: the figure estimated for arrivals and dispatches can amount to 21.9% and 16.9% respectively annually. At a quarterly level, it can reach 68.8% for arrivals and 58.0% for dispatches (see the first quarter of 1998). The other Member States apply more

moderate adjustments: on an annual basis, they vary between 0.9% and 10.8% for arrivals and between 0.5% and 7.6% for dispatches. In the case of the quarterly figures, the adjustments can be up to 15.1% for arrivals and 8.6% for dispatches.

In contrast with what has been observed for the European Union as a whole, adjustments do not always have a positive effect when their impact at Member State level is considered. For example, looking at the period 1993-98, a drop in asymmetries can be seen quarterly in 75% of cases for arrivals and in 50% of cases for dispatches.

It is clear that despite Eurostat's and the Member States' constant efforts to improve the quality of statistical data, asymmetries between mirror flows continue to exist, even at the most aggregated level. Various steps to improve data quality must therefore be continued.

# STUDY ON THE QUALITY OF THE INTRASTAT DATA FOR THE STEEL AND IRON SECTOR

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## 1. INTRODUCTION

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Under Eurostat's initiative of conducting more detailed analysis on the quality of the Intrastat data, a quality appraisal for the iron and steel sector was carried out in 1996 by the Iron and Steel Statistics Bureau (ISSB). The main objectives of the study were to assess the effects on quality of the reported results arising from the introduction of the Intrastat system and to identify possible reasons for these effects.

This paper presents the main results of the study. Section Two highlights the methodology used for the study. Section Three provides general conclusions on the overall reliability of Intrastat data at total product level and section Four at more detailed product levels. Section Five gives possible explanations for the quality problems in the intra-Community trade data.

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## 2. METHODOLOGY

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### 2.1. Data sources used

Two data sources were used to carry out this quality appraisal:

1. Intrastat data;
2. Producers' data<sup>(1)</sup>.

### 2.2. Period analysed

The study examined annual intra-Community trade data for the period from 1988 to 1994. Particular emphasis was placed on significant changes arising in 1993 and 1994 compared to earlier years.

### 2.3. Approach to the analysis

#### *Using Intrastat data only*

The approach used to assess the reliability of the Intrastat data in the steel and iron sector and the effects of the change to the collection method was based on mirror statistics.

For each of the Member States of the European Union (prior to 1995), the following mirror image comparisons were undertaken:

- Volume, value and corresponding percentages of discrepancies between Intrastat dispatches and sum of Intrastat arrivals declared by trading partners;
- Under the provision of the European Coal and Steel Community Treaty (ECSC), EU steel producers are required to provide monthly data on the volume of dispatches by broad product group to each Member State of the European Union. The data collected is based on the statutory ECSC questionnaire 2-71. Under the provision of the European Coal and Steel Community Treaty (ECSC), EU steel producers are required to provide

vide monthly data on the volume of dispatches by broad product group to each Member State of the European Union. The data collected is based on the statutory ECSC questionnaire 2-71. Volume, value and corresponding percentages of discrepancies between Intrastat arrivals and sum of Intrastat dispatches declared by trading partners.

#### *Using Intrastat and producers' data*

For each of the eight major steel producing countries (this includes Belgium and Luxembourg, France, Germany, Italy, the Netherlands, Spain and the United Kingdom), the volume of Intrastat dispatches was also compared to the volume of producers' dispatches as reported in the ECSC Questionnaire 2-71. This comparison provided an assessment of the completeness of the Intrastat data and the coverage of producers' statistics.

### 2.4. Products analysed

Mirror image comparisons were undertaken for:

1. the total of all ECSC steel products;
2. nine major groups of steel products identified in the statutory ECSC questionnaire 2-71;
3. five products identified at the eight digit level of the Combined Nomenclature.

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<sup>(1)</sup> Under the provision of the European Coal and Steel Community Treaty (ECSC), EU steel producers are required to provide monthly data on the volume of dispatches by broad product group to each Member State of the European Union. The data collected is based on the statutory ECSC questionnaire 2-71.

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### 3. ANALYSIS OF RESULTS AT TOTAL ECSC PRODUCT LEVEL

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#### 3.1. General assessment on the quality of the Intrastat data

Based on mirror image analysis, ISSB judged the quality of the Intrastat data for the steel and iron sector to be broadly satisfactory at the total ECSC product level, even though discrepancies increased for most Member States following the introduction of the Intrastat system in 1993.

#### 3.2. Analysis of results of mirror statistics by country of dispatch

Between 1988 and 1992, the overall volume of recorded intra-EU dispatches exceeded the volume of intra-EU arrivals by a small margin varying from 1.1% in 1991 to 2.9% in 1989. By overall value, the results were closer with the maximum excess being 0.4% in 1992 and a shortfall of 0.3% in 1988. In 1993, the introduction of the Intrastat system led to an increase in the excess, averaging 4.5% by volume in both 1993 and 1994 and 5.2% and 4.6% by value in the same years.

On a country to country basis, Germany is the only large country for which the volume of dispatches in 1994 fell significantly below partner arrivals. In France, the introduction of the Intrastat system appears to have contributed to a decline in the differences between the reported dispatches and partner arrivals compared to the period before 1993.

#### 3.3. Results of mirror statistics by country of arrival

The differences between the overall volume and value of reported arrivals and partner dispatches increased in 1993 and 1994 compared to the period between 1988 and 1992.

For the larger Member States, the shortfall of reported arrivals over partner dispatches were generally not greater than 3% on value and 5% on volume between 1988 and 1992. In 1993 and 1994, the differences between these mirror image comparisons increased, most notably in Germany for which arrivals as a percentage of partners dispatches dropped to 88% and 91% respectively.

For the smaller Member States, Greece showed substantial differences between arrivals and partner dispatches between 1988 and 1992, but these differences dropped markedly in 1993 and 1994. For the other smaller Member States, the discrepancies between arrivals and partner dispatches generally increased markedly in 1993 and 1994 compared to the 1988-1992 period.

#### 3.4. Comparison of the volume of Intrastat and producers' dispatches

For the eight larger Member States between 1988 and 1994, the volume of producers' dispatches accounted for at least 75% of the total volume of Intrastat dispatches and for most countries significantly more, particularly for the UK and Spain.

The relationship between the volume of producers' and Intrastat dispatches was, in most cases, reasonably constant apart from some discontinuities between 1992 and 1993, particularly for Belgium and Luxembourg, Italy and the Netherlands.

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### 4. ANALYSIS OF RESULTS AT DETAILED PRODUCT LEVEL

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Based on mirror statistics, the quality of the Intrastat data appeared to worsen at more detailed product level with the discrepancies between dispatches/arrivals and partner arrivals/partner dispatches generally greater than for the total of ECSC products. The increased product detail at the 8-digit CN level compared to 2-71 broad category level did not appear to have a significant effect on the reliability of recorded trade.

For those products with high volumes and values of trade, particularly those for which the majority of dispatches were by steel producers, the results are viewed by ISSB to be acceptable. Up to 1992, the differences between dispatches and partner arrivals were in most cases less than 10% and after 1992 generally increased by a further 10 percentage points.

For products with low volumes of trade and those mainly involving steel distributors and merchants, the reliability of the data deteriorated markedly. This is particularly the case for the smaller Member States, but also for the larger countries with little or no production of certain products (e.g. railway material in Belgium and Spain).

For most products and countries, the range within which producers and Intrastat dispatch data fluctuated was narrow, although there were some exceptions. According to ISSB, the exceptions may be due to changes in the pattern of direct trade by producers and from under recording or misclassification in the trade statistics. The lat-

ter would be true for those products and countries for which producers' dispatches have regularly exceeded Intrastat dispatches by a significant margin (e.g. reinforcing bars for the UK).

partners arrivals/partners dispatches are considerably higher at detailed product level than for total ECSC product level may be the result of product misclassification.

the goods, particularly if the invoice was issued from the country receiving the original order.

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## 5. POSSIBLE REASONS FOR DISCREPANCIES

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The reasons for discrepancies in the mirror statistics cannot be determined with certainty from the statistical data alone. Some of the possible explanations for the quality problems in the trade statistics are discussed below.

### 5.1. Product Classification

The fact that the differences between reported dispatches/arrivals and

### 5.2. Identification of trading partner

The analysis highlighted significant differences in the trade reported between individual countries, whereas overall for a product (whether at aggregate 2-71 or CN8 level) the differences were smaller. This may be attributed to some declarants facing difficulties in correctly identifying the country from which goods have been consigned.

Cross border alliances between steel producers in different EU countries, with orders taken in one country supplied by a producer in another, may lead to difficulties for declarants in determining the true country of supply of

### 5.3. Under-recording of trade

Since the introduction of Intrastat, the increase in the excess of dispatches over arrivals may be explained by the fact that the majority of dispatches are carried out directly by the steel producing companies, which are large traders, whereas some small and medium sized businesses may often be occasional importers of steel products and fall below the threshold for regular reporting.

In addition, under-recording of trade may result from the difficulties experienced by the Competent National Authorities in establishing and updating the registers of intra-Community trades required to submit the declarations.

## INITIATIVE QUALITY ON FOREIGN TRADE STATISTICS

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### BACKGROUND

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Since the introduction of Intrastat – January 1st 1993 – the quality of intra-EU trade statistics has been of great concern for Unit C4. It became immediately evident that the Intrastat system did not function as expected (quality of extra-EU trade was not affected, since the collection system remained customs based). From the beginning, timeliness, non-response and mirror discrepancies have been key issues. Numerous actions have been carried out or initiated by Unit C4 to remedy the situation including opinion polls, evaluation of the systems in the Member States, seminars, working groups, studies, legislation initiatives etc.

In the following, actions which have been carried out, are under way and planned for improving the data quality of foreign trade statistics are briefly described.

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### SEMINARS

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Unit C4 arranged two important seminars – European seminar on intra-community trade statistics (March 1996) and International seminar on foreign trade statistics (March 1998 with CBS Netherlands) – to assess the situation from the quality's point of view and to prepare for future challenges. Participants of the seminars have been satis-

fied and expressed a wish that this type of seminars could be organised even annually.

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### OPINION POLLS AND APPRAISAL STUDY

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Two surveys were conducted between May 1995 and January 1996 to better understand the needs of users and providers. In addition, national Intrastat systems were "inspected" in 1995 by specific evaluations teams with different teams visiting and interviewing all Members States. Results were presented in the March 1996 seminar. Users of the foreign trade statistics were in general surprisingly satisfied with the quality. Providers called for an alleviation of the burden to provide statistical information while the evaluation of the national systems emphasized the need for future actions to improve the functioning of the systems.

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### WORKING GROUPS

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Following the appraisal exercise of the National Systems, three working groups were created with the general objective of improving the functioning of the Intrastat system. The following domains are covered by the different groups: methods and legal aspects, processing and control procedures and data adjustment procedures. First results

concerning the processing and control procedures and the data adjustment procedures were presented to the methods committee in March and July 1998. In the future, the work on processing and control and data adjustment procedures will be concentrated in one group whose mandate is under preparation. The other group has prepared draft regulations aiming at harmonizing the statistical treatment of a number of special cases (ships and aircrafts etc.). In general, the role of the working groups is to carry out preparatory work for the methods committee.

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### STUDIES

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Numerous studies on data quality have been carried out, are under way and planned. Reconciliation exercises form an important field when trying to sort out and to explain observed differences in mirror statistics. In the past, reconciliation studies have been carried out both on intra- and extrastat. Bilateral studies in 8 Member States on intra-EU trade are also currently under way. One obstacle common for all these studies is the difficulty to exchange data on enterprise level with identification of traders which are, however, available in the fiscal area. Legislation recently adopted clarify data exchange between fiscal and statistical services and permit access to fiscal data which should make the present and future reconciliation exercises more successful. Other studies include alternative collection systems, introduction and improvement of adjustment and correction procedures.

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## OTHER ACTIONS ON QUALITY

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Unit C4 has developed a method and is in the process of developing alternative methods to detect outliers in the Comext database at detailed level. The purpose is to check data after it is loaded into the Comext database and to return findings to Member States for corrections. In addition, it is intended to implement specific pre-loading checks for data at highly aggregated levels.

Unit C4 reports and analyzes observed differences in the intra-EU trade statistics in the Mirror Leaflet. In addition, the unit provides mirror tables describing data discrepancies which Member States use for their adjustment and checking procedures.

Furthermore, unit C4 is also in the process of establishing two quality reports. The first one assesses the current level of quality of our statistical products according to Qualistat model. In the second, all the aspects from the transmission and loading of data to data dissemination will be collected and reported in a systemic way on a monthly basis. The goal is to improve data quality by reviewing all the steps of our production, checking and dissemination processes.

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## SLIM INITIATIVES

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Besides the above mentioned "pure" quality actions, there are actions running under the SLIM initiative focussing on the simplification of the Intrastat system; these measures will have, if implemented, important implications on data quality. It has been agreed with the Member States that the simplification measures under study should only be introduced if there is no risk for further deterioration in the data quality. Currently Member States are carrying out studies on different collection systems; for example the feasibility of the two-tier system within which detailed data is collected only quarterly and more aggregate monthly data (by using sampling). Results are expected by the end of 1998. As opposition against this system has been expressed by a number of Member States and European Federations it is important to prepare this option very carefully and avoid over-hasty announcements. Eurostat should bear the present difficulties with short term SLIM measures in mind and proceed prudently and try to minimize Member States' opposition.

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## CONCLUSIONS

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All the actions which have been taken, are underway and planned will undoubtedly improve the data quality in intra- and extra-EU trade statistics but do not necessarily remove the global discrepancy observed in mirror statistics. It is very likely that one has to adjust figures at aggregated level in order to reduce the discrepancies at acceptable level. Such adjustments have been avoided so far because the views on the quality of arrival and dispatch figures were divided (e.g. between Eurostat and France). Based on the results of the reconciliation exercises and a study started in the working group on data quality to adjust trade figures for discrepancies (Dutch proposals), Unit C4 plans to start implementing a method for adjusting global figures by the end of spring 1999.

In parallel close cooperation between BOP and Foreign Trade statisticians should create greater transparency concerning trade balances. The objective is to obtain a unique figure agreed in both sets of statistics concerning the merchandise trade.

# INTRASTAT DATA QUALITY PROCESS QUALITY AND RECONCILIATION EXERCISES

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## Abstract

*This paper proposes a framework for reflection and action regarding the management of quality in statistical processes. Quality is a concern beyond the end result; it should be present in every production step and ultimately be guaranteed through external confirmation.*

*A functional approach to the production process identifies 9 steps: definition, survey design and collection as preparation; data acquisition, aggregation and statistical control for production; presentation, publication and review for dissemination. In every single step, one of the usual quality criteria, focusing in turn on the user, the declarant and the process, is relevant.*

*Along SLIM lines, various actions were started recently for improving quality. Also for INTRASTAT, a reconciliation exercise between Belgium and France points to various hypotheses explaining wide mirror differences.*

**KEYWORDS:** *statistical process - functional description - quality criteria - mirror statistics.*

ity of the end results and be an instinctive reflex on the overall quality of the production process.

2. This requires an analysis of all the steps of the statistical production process in order to evaluate the relevant quality indicator in every step and propose actions.
3. A result can only lay a definitive claim on quality if it is subject to an external measurement or confirmation.
4. The actions described in this paper are a necessity for the future of INTRASTAT statistics.

## 3. DISCUSSION: OVERALL CONCERN FOR QUALITY

## 1. INTRODUCTION

In 1996 the NBB started an analysis of INTRASTAT along SLIM lines. This has resulted in simplifications for 1998 and a lot of 'work in progress', reflecting our current state of theory and practice.

Quality in statistics in my view is: *recognising* a need for information and *responding* to it by an agreed time, with a minimum burden - on the respondent -

and at a reasonable financial cost - for the agency. The adjectives point to the need for trade-offs.

I want to expose the following propositions; these ideas claim no originality, but are meant to be put to use.

## 2. PROPOSITIONS

1. The concern for statistical quality should go beyond the intrinsic qual-

As to the 1st proposition, quality measurements and expressions should be part of standard metadata. By stressing the quality aspects of the data and of the statistical system producing them, these measurements are needed for proper production and use of statistics just like other descriptors. The 2nd and 3rd proposition will attract most comments. The 4th propositions will lead to our conclusions.

(1) For the contents of this article, only its author is responsible, not his employing institution. At the time of publishing, the author has received new responsibilities outside statistics.

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## 4. IMPROVING AND GUARANTEEING EVERY STEP

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### 4.1. The statistical process

For this analysis a quality circle has developed a 9-step functional description of statistical processes (you may find similar schemes in other sources).

The whole process is subdivided in 3 functions: *preparation, production, dissemination*, comprising each three steps. For every step we formulate a description, a quality criterion, an error type or error-reducing action and comments.

### 4.2. The 3 steps of preparation

The preparation is subdivided in 3 steps: *definition, design of the survey, observation collection*. After consultation with the user, the attention will turn to the relations with the declarant.

#### a) Definition step

The Definition step is about identifying the product/customer mix, the characteristic of interest to the user, that is, the phenomenon or parameter to be observed.

The quality criterion is relevance and the error, relevance discrepancy, that is, the difference between an ideal characteristic and the practical characteristic to be observed.

*Action:* consultation with the user, oriented towards methodological information on contents (component details, classifications and nomenclature) and sources. This metadata information can accompany the results as keys for interpretation.

*Comments:* the user is the final judge whether the statistic makes sense (for what it costs). One element of appreciation will be the exhaustivity, the comparability over space and time to other statistics, the level of harmonisation of the concepts.

#### b) Design

*Design is the preparation of data collection.* This is: the planning and organising of the survey, the target population to be surveyed, the components to be covered and variables to be measured, the choice of a sampling technique.

*The criterion is representativity and the error is accuracy discrepancy.* This is the difference between the real level of the characteristic to be estimated and the actually achieved estimate through design errors (the statistician should be able to describe this margin of accuracy).

*Actions, internal:* identifying model assumptions that are sources of non sampling error; efficient design (keep it simple), testing.

*Action, external:* information for the declarant with clear language and simple definitions.

*Comments on coverage:* here lies the choice between components: between the less comprehensive, preliminary, for short-term analysis (criteria of representativity and of timeliness) and the more comprehensive, revised, for structural analysis (criterion of exhaustivity).

#### c) Observation collection

*Observation collection is:* the actual task of turning towards the declarant and getting the data.

*The criterion is efficiency and the error:* measurement error, non response.

*Actions:* survey design (easier to complete and clear instructions), making every effort to include every business (by

administrative actions centred on respondents such as reminders and incentives).

### 4.3. The 3 steps of production

The production is subdivided in 3 steps: *data acquisition* (observations), *aggregation, control*. The attention now turns to the production process. This works out on different levels: the elementary transaction, the return (sum of transactions), the individual enterprise, the statistical aggregate.

#### a) Data acquisition

*Data acquisition is:* the physical coding and data entry of elementary transactions on the returns, followed by the validation of these transactions by means of reference tables and criteria of credibility. The criterion is speed and time-lag.

*Action, internal:* increasing the speed of data entry and of validation processing.

*Comments on speed:* the time lag depends on the complexity of the processing; also, the frequency of compilation of the statistic depends on the ease of observation and need for analysis.

#### b) Data aggregation and adjustment

*Data aggregation is* the elaboration of a proper statistical result or series from validated observations, by means of models, including non response adjustments. The criterion is reliability and the error: model assumptions and processing errors with loss of reliability and exhaustivity.

*Action, internal:* formal training.

#### c) Statistical data control

*Data control is:* applying mathematical and statistical methods to the aggregates in order to increase the intrinsic quality. The criterion is harmony (reasonableness).



*Action, internal:* formalised control actions (with results understandable by account managers); reconciliation with related data and cross-checks.

#### 4.4. The 3 steps of dissemination

The 3 steps of results dissemination are *presentation, publication, review*; the attention turns towards the user of the statistic.

At this point in the process the result is fixed with its intrinsic quality: precision and reliability. The timeliness, dependent on the time needed for statistical processing, can still be influenced by the duration of the first and second dissemination steps. The descriptive elements of quality should also be transferred to the dissemination system.

##### a) Presentation

*Presentation is the preparation step in dissemination:* defining the target groups and the publication format. The criterion is the usefulness of the presentation.

*Actions, internal:* contents (internal coherence) and layout (clear, readable), formal approval and sign-off.

##### b) Publication

Publication is delivering the results, providing the users with access. The criteria are timeliness, access and continuity.

*Action, external:* advance communication of release calendar, accompanying metadata.

*Comments:* the use of electronic means can often shorten the processing times and ensure equality of access (simultaneous release).

##### c) Review

*Review of the process is:* going back to square one and asking the question: are

we responding to the needs? Are we really measuring, through the trade between member states, the national economic performance? The criterion is interest on the user's side.

*Action:* regular and systematic reflection.

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## 5. ACTIONS

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Our current action plan contains: suppress the difference between the national version of trade figures and the community definitions, simplify the variables for a lesser burden, increase the threshold (250.000 ECU), stabilise the population (traders' register) inside of the year, stimulate electronic declaration (also for better intrinsic quality), build partnerships with software builders, install automatic corrections for small transactions, study the implementation of OCR, make estimates along two methods (constant sample and VAT comparison), integrate the estimated results in observed transactions, compute aggregates and time series on different levels for control analysis (HS4 positions, countries, enterprises), search for external reconciliation, support simplified nomenclature CN8, study unilateral registration.

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## 6. EXTERNAL RECONCILIATION

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The INTRASTAT system offers the opportunity for external reconciliation, on a national level, by VAT comparison and on an intra-Community level by mirror statistics. We should take every opportunity to develop these techniques.

These matching exercises will essentially be analyses of differences.

### 6.1. External reconciliation: national

INTRASTAT corresponds to the intra-community acquisitions and supplies for VAT, declared by the same population of traders. Action: systematic reconciliation of INTRASTAT and VAT returns (where these are independent systems); information to declarants to methodological correspondences and differences.

### 6.2. External reconciliation: intra-community

In every pair of member states, INTRASTAT should cover the same operations (except for threshold applications).

*Work in Progress:* reconciliation exercise Belgium - France (report forthcoming in 1998).

The objective is the analysis and solution of differences (methodological, collection, aggregation). The means are identifying a set of transactions and following their trail in the mutual statistical systems.

Starting from upper-level aggregates, HS chapters were identified for which a difference of 10 % or more was noted. For other chapters the differences are lower, on either side.

Chapters were drilled down to HS4 or CN8 positions and selected totals down to 'nature of transaction'. Analysed are the chapters: 17, 27, 71, 72, 87, 88, 89.

Traders active in each country in these products were identified: top-down. The next step was to identify their commercial counterparts (supplies/customers) and follow the trail bottom-up again.

FRANCE has VAT-numbers on its combined INTRASTAT/VAT 'Declaration d'Echanges de Biens' (DEB) but is op-

posed to exchange this tax information to foreign statisticians.

Belgium simulated, for a handful of traders, a look-alike DEB by combining INTRASTAT and VIES (Vat Information Exchange System), in order to identify French counterparts. We are in this stadium.

*Next:* surveying the traders on a voluntary basis and tracing the statistical lines down to invoices and back up again

*Results of these inquiries (hypotheses):* no declaration; very late declarations; different reference value; CN8 coding errors; probability of triangular trade;

contract processing not documented in vat; high gross flow figures.

*Belgium-Holland:* the exercise is in a 'wait' state.

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## 7. THE FUTURE: WHAT FOR?

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The item of reconciliation exercises points to the guaranteeing of quality levels.

Official users of Merchandise trade figures (I point to the International Monetary Fund in this matter) are putting forward clear and strict standards for data dissemination. Guaranteed quality in all its dimensions will ever more be required (for timeliness delays of only 4 to 6 weeks are encouraged).

I am not here to discuss unilateral registration. Yet, in that event, we will be, as Member States, primary users of each other's data and production systems. This will necessarily be based on a high level of trust and confidence between ourselves, built upon objective appraisals and procedures.

*Brussels, 15 January 1998*  
*Kerkrade (NL), March 1998.*

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# RECONCILIATION EXERCISE ON MERCHANDISE TRADE STATISTICS BETWEEN AUSTRALIA AND THE EUROPEAN UNION

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## 1. INTRODUCTION

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The Statistical Office of the European Communities (Eurostat) has carried out a reconciliation study with the Australian Bureau of Statistics (ABS) on bilateral merchandise trade flows between the EU and Australia. The objective of this reconciliation was to identify major data discrepancies in the statistics produced by Eurostat and ABS and their main causes.

The initiative was launched in December 1997 by a visit of Eurostat to ABS which established the overall framework for the reconciliation exercise. Given the short time available in completing the reconciliation exercise, it was agreed to limit the results to aggregate import and export flows.

The reconciliation exercise was carried out for the period 1992 to 1997. The two data sources used for the comparison were ABS trade data and EU trade data (Comext, EU database). The UN database (Comtrade) was not used due to certain problems with the Australian data currently appearing on Comtrade. Australia is currently investigating these problems.

The reconciliation was therefore based on direct data exchange between ABS and Eurostat. Detailed data (annual basis) for 1992 to 1996 was transmitted by the ABS to Eurostat during the months of January and February; data for 1997 were sent in April. Specific investigations were also undertaken with those Member States which are the main trading

partners of Australia to identify potential sources of discrepancies and to single out extraordinary operations which may have caused substantial mismatching between Australian and EU reported figures.

The reconciliation exercise was carried out in two steps:

1. Analysis of the main methodological differences in the concepts applied by Australia and the EU to assess their effects on discrepancies between the EU and Australian reported figures.
2. Analysis at more detailed levels of trade to explain the discrepancies remaining after the applications of the adjustments described above.

It was not possible to obtain comprehensive information from all the Member States. This was in part due to the short time available to complete the exercise. Furthermore, some data elements were not available and others could only have been collated at high costs which would have required additional resources.

Consequently, some key underlying assumptions needed to be made in order to undertake the reconciliation exercise (e.g. the German CIF-FOB ratio was assumed to be representative for the Union for converting EU imports to FOB). Other assumptions were also based on partial information received from the Member States (e.g. sources of discrepancies such as the effects of the different trade systems - Australia, *general* trade, EU *special* trade - applied by Australia and the EU were assumed to have

negligible influence on the overall discrepancies and were therefore not reconciled).

Both the Australian and EU data were adjusted. Adjustments presented in the reconciliation exercise do not generally imply errors in Australian or in the EU's published statistics, but are mainly due to different methodological concepts or dissimilar treatment in the sale/purchase of certain categories of goods.

The results presented below are preliminary. Modifications may be required given that Eurostat is awaiting additional information from the Member States and that for 1996 and 1997, figures are still subject to corrections.

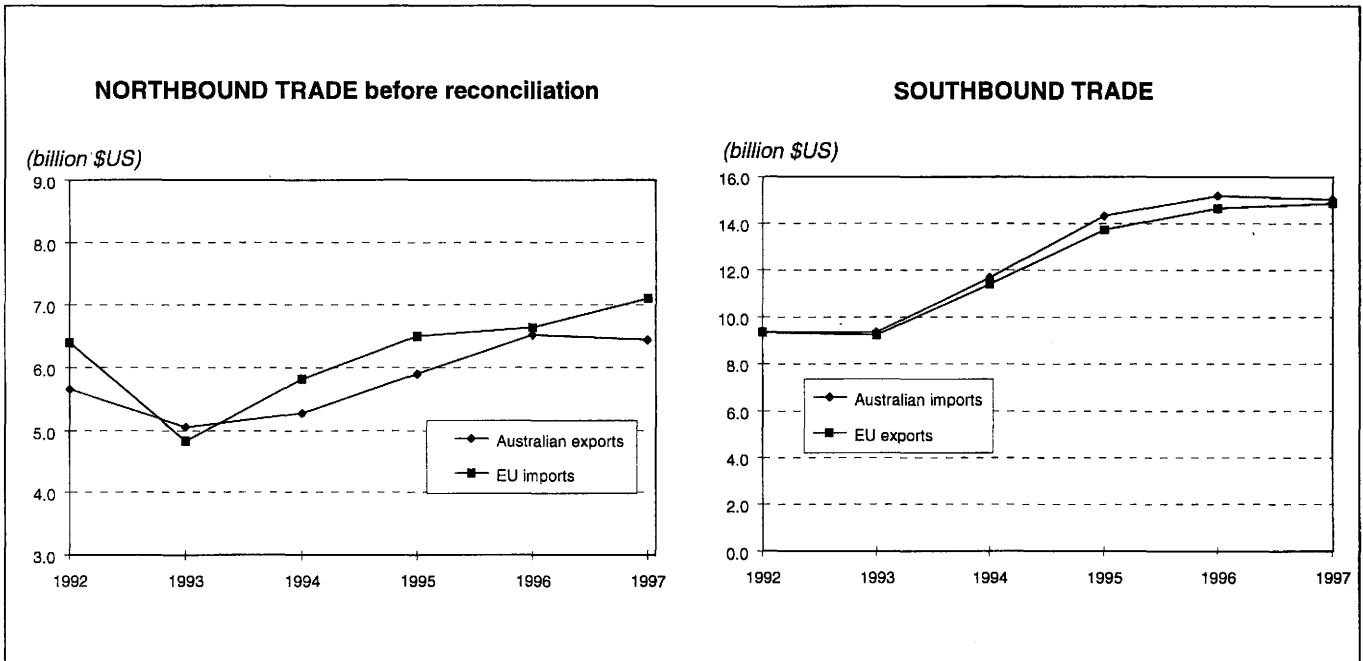
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## 2. MAIN FINDINGS

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### 2.1. Situation before reconciliation

The EU is Australia's largest trading partner for imports (i.e. southbound trade) and the second most important for exports (i.e. northbound trade) after Japan. Between 1991 and 1996, Australian trade with the EU accounted for approximately 25% of total Australian imports and 10% of Australian exports. Among the Member States, the United Kingdom is the main partner country of Australia followed by Italy for northbound trade and Germany for southbound trade. For the EU, trade carried out with Australia is slight, accounting for roughly 2% of total EU exports and 1% of EU imports in 1996.



From 1992 to 1997, the value of EU recorded imports exceeded that of Australian recorded exports by a percentage difference of at least 10%

except for the years 1993 and 1996 which did not follow this pattern. In 1993, the value of Australian recorded exports was higher than EU

recorded imports by 4% while for 1996, the percentage excess of EU imports over Australian exports was reduced to 2%.

		1992	1993	1994	1995	1996	1997
(billion \$US)							
<b>Northbound trade before reconciliation Values</b>							
Australian exports (FOB)		5.7	5	5.3	5.9	6.5	6.4
EU imports (CIF)		6.4	4.8	5.8	6.5	6.6	7.1
Discrepancy *	in value	0.7	-0.2	0.5	0.6	0.1	0.7
	in %	13%	-4%	10%	10%	2%	10%
<b>Southbound trade Values</b>							
Australian imports (FOB)		9.4	9.3	11.7	14.3	15.2	15.1
EU exports (FOB)		9.4	9.2	11.4	13.7	14.6	14.9
Discrepancy *	in value	0	-0.1	-0.3	-0.6	-0.6	-0.2
	in %	0%	-1%	-2%	-4%	-4%	-1%
<b>Trade balance before reconciliation Values</b>							
Australian trade balance with EU (source: ABS)		-3.7	-4.3	-6.4	-8.4	-8.7	-8.6
EU trade balance with Australia (source: Eurostat)		3	4.4	5.6	7.2	8	7.8

\* calculated on the basis of values in 1000 \$US.

In view of the significantly lower discrepancy levels observed in 1993 and 1996, one possible interpretation by users is that the northbound data is more reliable for these two particular years. This was however not borne out when considering the different valuation practices applied by Australia and the EU in respect of CIF and FOB. Theoretically, EU import figures should be higher than Australian export figures given that freight and insurance costs are included in the EU import values but excluded from the Australian export values (i.e. Australian exports are valued at FOB while EU imports at CIF). Furthermore, based on a CIF-FOB conversion ratio calculated by the German Central Bank, the percentage excess of EU imports over Australian exports should range between 8 and 9 %, thus raising some data problems for 1993 and 1996.

For southbound trade, the data appears to be broadly reliable over the studied period. This reflects the stable trend in the time series and the low percentage difference between EU exports and Australian imports, ranging from close to nil in 1992 to 4% in 1995 and 1996. For southbound trade, valuation in both statistics is conducted on the same basis (FOB values) implying that both sets of figures should in principle be comparable.

In sum, the Australian and EU trade data did not present major problems with the exception of the 1993 and 1996 northbound data. Consequently, the reconciliation was limited to northbound trade. The main objectives of this exercise are to understand the underlying reasons for the distortions in the 1993 and 1996 data and to assess the impact of the different valuation practices applied by the EU and Australia in respect of CIF and FOB.

## 2.2. Situation after reconciliation

The table below identifies and quantifies the elements which explain the discrepancies between the published Australian exports and European imports statistics.

For the years 1992, 1994, 1995 and 1997, the table shows that the residual discrepancies (i.e. discrepancy remaining after all the adjustments have been made) are significantly lower than the initial discrepancies. However for 1993 there is no change in the residual discrepancy and for 1996 the residual discrepancy changes from +2% to -3%.

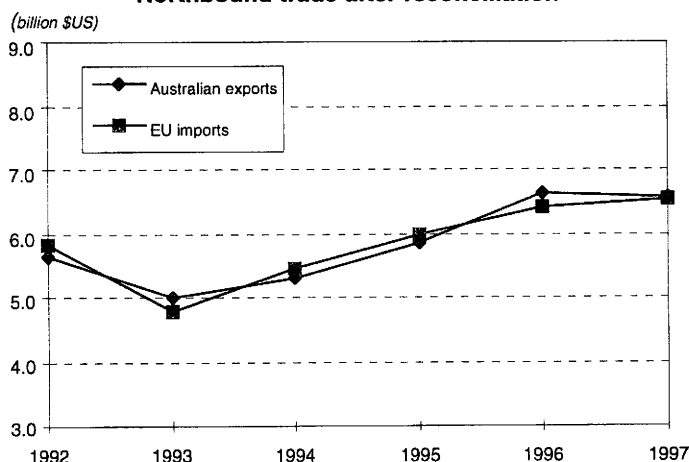
For each of the years under study, the CIF-FOB adjustments on EU imports were significant, accounting for roughly 8% of the total value of EU imports. For

1993 and 1996, important adjustments were also made to account for large value extraordinary transactions which had not been recorded in EU import statistics. For 1993, these operations referred essentially to Australian exports of non-monetary gold to the UK which required an adjustment on EU imports accounting for approximately 7% of total reported EU imports from Australia. For 1996, both exports of non-monetary gold to the UK and ships to the UK and to Germany created major distortions between Australian export and EU import data and required adjustments representing roughly 4% of total EU imports from Australia. Adjustments for large value transactions of ships and non-monetary gold were also made for the other years, but did not generally have significant impacts on the residual discrepancies.

Australia / EU merchandise trade reconciliation  
Northbound trade

	(million \$ US)					
	1992	1993	1994	1995	1996	1997
<b>Australian exports</b>	5 663	5 055	5 276	5 908	6 534	6 439
<b>Adjustments</b>						
Valuation	535	409	479	544	552	590
Country classification	-62	-61	23	-51	96	124
Timing	68	-17	-59	-40	-48	-17
Exchange rate	12	-12	10	-1	6	-10
Particular movements	13	-327	-92	3	-277	0
<b>Residual discrepancy</b>	177	-206	171	138	-218	-26
<b>EU imports</b>	6 405	4 841	5 809	6 502	6 645	7 100

Northbound trade after reconciliation



### Northbound trade after reconciliation

		(billion \$US)					
		1992	1993	1994	1995	1996	1997
Australian exports (FOB)		5.7	5	5.3	5.9	6.6	6.6
EU imports (FOB)		5.8	4.8	5.5	6	6.4	6.5
Discrepancy *	in value	0.2	-0.2	0.2	0.1	-0.2	0
	in %	3%	-4%	3%	2%	-3%	0%

\* calculated on the basis of values in 1000 \$US.

For 1992, 1994, 1995 and 1997, the CIF-FOB adjustment was the largest contributor to the narrowing of the gap between EU imports and Australian exports. For 1993 and 1996, the adjustments made on EU imports for CIF-FOB and for the

missing large value operations described above tended to offset each other either wholly or partially with the result that there was a limited impact on the residual discrepancy.

The effect of the reconciliation on the

Australian and EU trade balances were all in all quite slight. This is mainly due to the size of the southbound trade and the good correspondence of the figures which made the reconciliation exercise unnecessary for this flow.

### Trade balance after reconciliation

		(billion \$US)					
		1992	1993	1994	1995	1996	1997
Australian trade balance with EU (source: ABS)		-3.7	-4.3	-6.4	-8.5	-8.6	-8.5
EU trade balance with Australia (source: Eurostat)		3.5	4.4	5.9	7.7	8.2	8.3

\* calculated on the basis of values in 1000 \$US.

In light of the low residual discrepancies observed in each year of the studied period, the reconciled data is considered to be reliable for aggregated levels. Comparisons at more detailed levels are more difficult. One major problem is linked to the confidentiality applied on Australian exports at all levels of the goods nomenclature, affecting direct comparison of data at chapter level (but not affecting country totals). In addition, at partner country level, comparability between Australian and EU data by Member State is strongly hampered by the so called Rotterdam effect which generally applies to

EU imported goods shipped to the Netherlands and released for free circulation, but destined to other Member States.

ciled discrepancies between Australian and EU trade data were low, implying that the quality of the data is satisfactory for aggregated levels.

### 3. CONCLUSIONS

The reconciliation had valuable results in that the northbound data problems for 1993 and 1996 were raised and mostly resolved. Furthermore, the recon-

The results of the performed reconciliation are preliminary as additional information may be received from the Member States. Further reconciliation studies at more detailed level of trade with Australia are not planned at this stage given the significant resource needs this would entail. More targeted reconciliation studies, however, may be considered based on specific user requests.

# THE QUALITY OF THE EXTERNAL TRADE FIGURES

Paper prepared by the external trade department of Danmarks Statistik and completed on 2 October 1998

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## Foreword

*With the introduction of the European Community's Single Market on 1 January 1993, border formalities and customs documents for the trading of goods between the Member States were abolished, taking with them the basis for compiling Denmark's external trade statistics from customs and transit documents alone.*

*To replace the former customs-based system, a new system known as INTRASTAT was introduced, whereby enterprises trading goods within the EU have to submit returns which are used solely for statistical purposes. Statistics on trade with non-EU countries (third countries) are still collected as before, using the system known as EXTRASTAT.*

*Like the other EU countries, Denmark ran into fairly serious problems with implementation of the INTRASTAT system, which at the beginning of its lifetime led to lengthy delays in the publication of external trade figures. Doubts were also raised in various quarters about the quality of the statistics following the introduction of INTRASTAT.*

*The present note provides information on the quality of external trade statistics in the form of a series of comparisons with alternative statistical sources, accompanied by a report on the steps which Danmarks Statistik is already taking or is planning to take to improve quality. The note was drafted in Danmarks Statistik's external trade department by Rewal Schmidt Sørensen.*

*It is being updated continually and published in a new edition four times a year.*

Danmarks Statistik, 2 October 1998  
Jan Plovsing / Rewal Schmidt Sørensen

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## 1. OVERVIEW

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### Introduction of INTRASTAT

Since the European Community's Single Market came into being on 1 January 1993, the basic data for external trade statistics have been collected using two systems: EXTRASTAT (trade with non-EU or "third" countries) and INTRASTAT (trade with EU countries). Prior to 1 January 1993, all the basic data for external trade statistics were collected under an integrated system which served both fiscal and statistical purposes and corresponded to the current EXTRASTAT. In contrast, the INTRASTAT system is used for statistical purposes alone, and this in itself could give rise to the suspicion that the quality of external trade statistics has deteriorated.

### Comparisons

To investigate this supposition, Danmarks Statistik has compared external trade figures with alternative statistical sources providing information on Denmark's external trade, and has come to the following conclusions:

- The comparisons of Danish external trade figures and the external trade figures of the other EU countries (**mirror transactions**) show that in the other EU countries there are much greater problems with the levels of imports from Denmark than there are in Danmarks Statistik's calculations of transactions in the opposite direction (Danish exports to the other EU countries). In particular, German figures for imports into Germany from Denmark appear to be very much underestimated. Danmarks Statistik's figures for exports to Germany show a much more realistic pattern for the changeover to the INTRASTAT system in 1993 than the German figures for imports from Denmark.

- Comparisons of external trade figures with **other national statistics compiled by Danmarks Statistik** show very similar movements in the case of both imports and exports: imports from the other EU countries and VAT statistics for EU purchases of goods show the same trend. The trend for exports to the other EU countries also tallies remarkably well with that of VAT statistics for EU sales of goods. Furthermore, movements in total exports of industrial products agree with the monthly returns showing the turnover of industry on the export markets, although in the last few years external trade statistics' export figures have grown more rapidly than industrial statistics' figures. Comparisons of external trade figures and **the National Bank's foreign exchange statistics** indicate that the Danish external trade import figures may be underestimated. Where exports are concerned, there was good agreement between the National Bank's figures for foreign exchange earnings up to the middle of 1995, since when these earnings have been higher than exports, with the difference becoming steadily greater. Since this comparison indicates that both imports and exports may be undervalued, the effect on the quality of the trade balance figures is limited.

### Initiatives

In order to improve the quality of external trade statistics, Danmarks Statistik has tightened up its procedure for issuing reminders and stepped up error correction work, sending respondents standard letters calling attention to presumed errors.

Facilities for checking at enterprise level via a correlation of external trade figures with information supplied for statistics on orders and turnover in industry are being investigated.

In October 1998, the National Bank is reorganising foreign exchange statistics, and it will then be possible to compare foreign exchange payments with external trade transactions at enterprise level.

Finally, a system whereby larger enterprises will settle VAT monthly is being introduced in 1999, and this will make possible a more accurate and up-to-date comparison of the INTRASTAT figures and VAT figures for EU trade.

Below are further details of the results.

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## 2. COLLECTING THE BASIC DATA

---

### There are now two systems ...

Obtaining the basic data for external trade statistics is nowadays a two-part process, the two parts of which may largely be considered as two independent statistical systems:

1. EXTRASTAT, which covers trade with non-EU countries (third countries), and
2. INTRASTAT, which covers trade with EU countries.

### ... introduced on 1 January 1993

This two-part system was introduced on 1 January 1993, when the EC's Single Market came into being. Previously, a system corresponding to EXTRASTAT had been used to collect all external trade statistics.

### EXTRASTAT's ...

For EXTRASTAT, external trade data are collected with the data collected by Told-Skat [the Danish customs and taxation authority] for the levying of customs duties and for export controls. Danmarks Statistik's role is primarily to run a prob-



ability check on the data, while the whole error correction process is carried out by Told-Skat.

#### ... strength ...

Where the quality of external trade statistics is concerned, EXTRASTAT's main strength is that the data collected serve both statistical and fiscal purposes. The latter ensures that there is rigorous supervision and firm discipline when it comes to reporting the figures. Furthermore, all transactions crossing the Danish border are reported in full, although simplified declarations<sup>(1)</sup> may be used for goods transactions which fall below the value thresholds (transactions of DKK 6 500 and 1 000 kg or less).

#### ... and weakness ...

One weakness of EXTRASTAT is that Told-Skat will target its checks more particularly on transactions which are important from the fiscal point of view. This may be assumed to lead to bias in the sense that the import figures are of better quality than the export figures.

#### INTRASTAT's ...

Although the collection of external trade data for EU countries, i.e. the INTRASTAT system, serves statistical purposes alone, for practical reasons Told-Skat is responsible for collecting these data, too. Danmarks Statistik carries out both error searches and error corrections on all data, the latter via direct contacts with businesses. The information for INTRASTAT may be given in the form of monthly totals for each individual combination of good, country, flow and type of transaction - it is not necessary when submitting the returns to identify each individual move-

ment of goods, but in practice many businesses choose to report individual transactions, just as they do for EXTRASTAT.

#### ... weakness ...

One weakness of INTRASTAT is that the data collected serve statistical purposes only and not, as with EXTRASTAT, fiscal objectives as well. It must be assumed that this leads to less strict discipline where the submission of declarations is concerned<sup>(2)</sup>. Furthermore, INTRASTAT statistics are not exhaustive, since firms with annual imports from EU countries totalling less than DKK 1.5 million (before 1997, DKK 0.5 million) and/or exports to EU countries totalling under DKK 2.5 million (before 1997, DKK 0.8 million) are exempt from reporting to INTRASTAT.

#### ... and strength

The population which is obliged to submit INTRASTAT declarations is fixed on the basis of information which all firms trading in the EU have had to provide for the quarterly VAT returns since 1 January 1993 (heading A/B). It must be seen as one of INTRASTAT's strengths that an alternative source is thus established which can be used to check INTRASTAT data. The importance of this advantage should not, however, be exaggerated, since there are no fiscal consequences if EU trade information is reported incorrectly on the VAT form.

#### Estimate

Since the basic data for external trade statistics are no longer exhaustive, an estimate is now made of the figures not covered by the returns. The estimate uses the information given on the VAT form, headings A and B.

## 3. COMPARISONS

### Statistical sources

The quality of the external trade figures can be illustrated via a comparison with other statistical sources which include information on Denmark's external trade. The following may be used for comparisons:

- mirror statistics, i.e. comparisons of Danish imports and exports with the corresponding flows in the opposite direction in other EU countries' external trade statistics;
- the National Bank's foreign exchange statistics, i.e. a comparison of external trade transactions and the associated payments;
- VAT statistics. When INTRASTAT was introduced, the VAT form was extended to include, inter alia, two headings which firms have to fill in with information on EU purchases and/or sales of goods;
- statistics on orders and turnover in industry, which include information on turnover on the export markets;
- for imports, changes in the unit values of external trade statistics may be compared with changes in the wholesale price index.

In the following sections, external trade figures are systematically compared with alternative sources.

### 3.1. Mirror statistics

#### Definition

In principle, there should be a very close correlation between Danmarks Statistik's figures for Denmark's imports and other

<sup>(1)</sup> The simplification consists of the fact that the goods code need not be given for small individual transactions, which may be collected together under a special threshold items code ("other goods").

<sup>(2)</sup> It is a punishable offence to submit incorrect information or to refuse to submit information for mandatory censuses carried out by Danmarks Statistik, but the possibilities for both checking and imposing sanctions are very limited.

countries' figures for their exports to Denmark (mirror statistics), and similarly Denmark's exports should tally with imports from Denmark as recorded in the country of destination.

#### There is necessarily a difference ...

For various reasons, however, this does not hold entirely true in practice:

- In both INTRASTAT and EXTRASTAT, transactions in goods are recorded according to statistical value<sup>(3)</sup>, i.e. the value of the goods free at the Danish border. For imports, this means the cif value (c.i.f. - cost insurance freight, i.e. the value of the goods including transport and insurance costs etc. as far as the Danish border) and exports are reported in fob values (f.o.b. = free on board, i.e. the value of the goods including costs to the place from which they are being exported, e.g. the port from which they are shipped). External trade figures compiled from the imports side should thus in principle always be higher than the corresponding figures compiled from the exports side.
- Export transactions should be recorded earlier than import transactions owing to the time taken for transport from the country of consignment to the country of destination.
- Transactions are converted to national currencies, and thus the use of different exchange rates in the country of consignment and the country of destination is one source of discrepancies.
- With comparisons at the detailed level of goods, the fact that the importer and the exporter may classify the goods differently, i.e. that an incorrect Combined Nomenclature (CN) heading is used, is an obvious cause of discrepancies.

### 3.1.1. Denmark's exports to the EU versus EU imports from Denmark

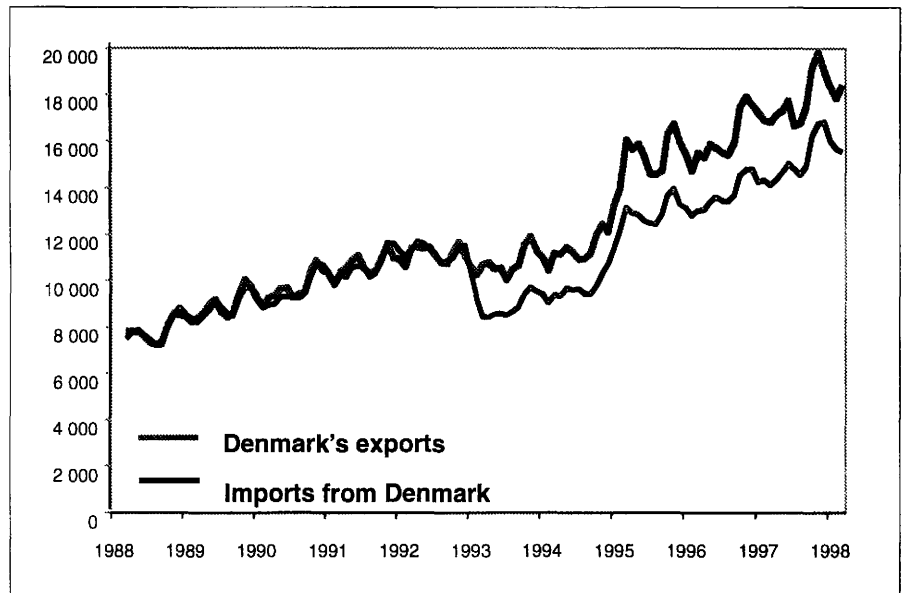
#### ... but that is nothing new

The factors listed above pre-date INTRASTAT, and therefore cannot be respon-

sible for the major difference in mirror statistics following the introduction of INTRASTAT in 1993 - cf. Figure 1.

Figure 1.

Denmark's exports to the EU and EU imports from Denmark (DKK million, 3 months' moving average)



NB: As from 1995, including Sweden, Finland and Austria. The source of data for the other EU countries is Eurostat's external trade statistics database, COMEXT. N.B: The Danish figures in COMEXT are not the same as those published by Danmarks Statistik, since the COMEXT figures are compiled according to the special trade principle and repairs of goods are included. Danmarks Statistik uses the general trade principle and does not include repairs of goods in the published external trade figures. The difference is minor.

#### Difference of approximately DKK 23.2 billion in 1993 ...

Prior to 1993, imports from the other EU countries as compiled by Danmarks Statistik were virtually identical to exports to Denmark as compiled by the statistical offices of the other EU countries. In 1993, the difference increased dramatically, with the value of Danish exports to EU countries approximately DKK 23 billion higher than the value of the EU countries' imports from Denmark - i.e. around 21.8% of total imports from Denmark into the other EU countries as compiled by the statistical offices of those countries.

#### ... increases to approximately DKK 30.5 billion in 1995

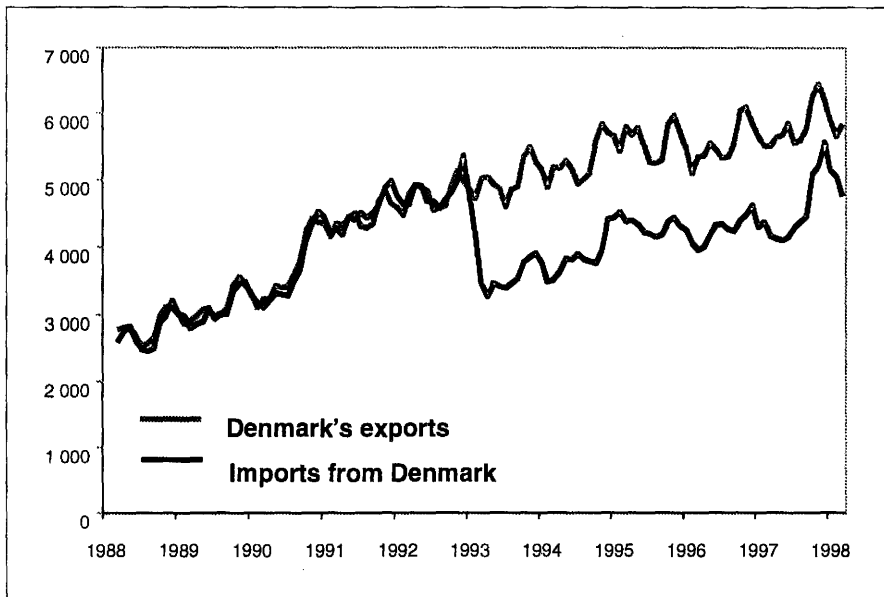
The gap between the two sets of figures widened further in 1995 to DKK 30.5 billion, but was slightly smaller in the following years.

#### Germany is the main problem ...

By far the largest share of the difference as from 1993 is accounted for by trade between Denmark and Germany, cf. Figure 2.

<sup>(3)</sup> Since January 1998, invoice values have been collected for INTRASTAT, but external trade figures are still published in terms of statistical values.

Figure 2.  
Denmark's exports to Germany and Germany's imports from Denmark  
(DKK million, 3 months' moving average)



... difference of approximately DKK 17.2 billion in 1993

In 1993, imports from Denmark to Germany as compiled by the latter were calculated to be DKK 17.2 billion less than exports to Germany as calculated by Danmarks Statistik. The difference was around 75% of the total difference between Denmark's figures for exports to the other EU countries and the EU countries' figures for imports from Denmark. The difference was much less striking in the second half of 1997, but has since increased again.

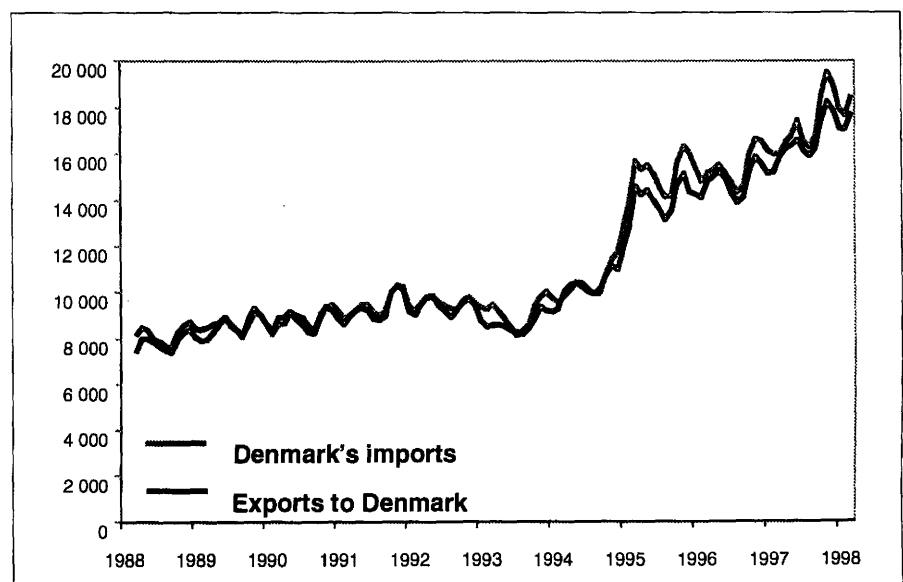
There are also problems with figures for trade with other Member States ...

If we compare Danmarks Statistik's figures for exports to the other EU countries with the figures of those countries - excluding Germany - for imports from Denmark (cf. Annex 1), the picture is less clear. The main tendency, however, is still for Danmarks Statistik's export figures to be higher than the other countries' figures for imports from Denmark during most of the period following 1992.

... in 1997, the UK in particular

The difference is most pronounced in the figures for trade with the UK, the Netherlands and Sweden - in particular, the gap between Denmark's figures and the UK figures widened in 1997 and 1998.

Figure 3.  
Denmark's imports from the EU and EU exports to Denmark  
(DKK million, 3 months' moving average)



NB: As from 1995, including Sweden, Finland and Austria

### Enlargement of the EU in 1995

In 1995 (cf. above) there was a slight increase in the absolute difference between Danmarks Statistik's figures for exports to the other EU countries and the EU countries' figures for imports from Denmark. This difference was largely due to the enlargement of the EU to include Sweden, Finland and Austria, figures for which are now compiled via the INTRASTAT system for trade with EU Member States. More particularly, the accession of Denmark's second largest trading partner, Sweden, helps to explain the wider gap.

### 3.1.2. Denmark's imports from the EU versus EU exports to Denmark

There are also differences in the mirror statistics for Denmark's imports ...

If we compare Danmarks Statistik's figures for imports from the other EU countries with those countries' figures for their exports to Denmark - cf. Figure 3 - we see no noticeable difference in the two sets of figures, either before or with the

changeover to INTRASTAT in 1993. From 1995 onwards, however, Danish import figures are consistently higher than the other countries' export figures, primarily because the Danish figures for imports from Sweden and Germany are higher than those countries' figures for exports to Denmark.

### ... but only minor ones

The differences in the mirror statistics for imports into Denmark from the other EU countries are, however, much smaller than the corresponding mirror statistics for Denmark's exports - cf. above.

### 3.1.3. Which figures are correct?

#### Result for exports ...

The outcome of the mirror statistics exercise - cf. above - can be summarised as follows: Danmarks Statistik's figures for exports to the other EU countries show a very modest fall from 1992 to 1993 when INTRASTAT was introduced, whereas the other EU countries' figures for the mirror transactions (imports from Denmark) show a very sharp drop.

#### ... and for imports

The differences between Danmarks Statistik's figures for imports to Denmark and the other EU countries' figures for exports to Denmark are, however, very minor.

#### Who is right? ...

The question naturally arises as to which figures best describe Danish trade with the other EU countries after 1992. It is difficult to provide any hard-and-fast answer, but there are at least two reasons for thinking that Danmarks Statistik's external trade figures are better than the mirror statistics of the other EU countries:

- The other EU countries' mirror statistics for Denmark's exports show movements which are, to put it mildly, somewhat unlikely: a drop of around DKK 28.8 billion measured in current prices from 1992 to 1993, or around 21.3%. Admittedly, the EU economy as a whole showed slightly negative growth in 1993, but not negative enough to account for such a dramatic fall. The mirror statistics for Denmark's exports are, quite simply, totally unreasonable. The Danish figures show a much more moderate (and credible) fall of around 3.3%.
- In order to decide which firms are obliged to submit information for INTRASTAT, there must be an accurate business register with the relevant VAT information. Danmarks Statistik has presumably more experience than any other statistical office in the EU of compiling register-based statistics, and has been able to pinpoint the INTRASTAT population very accurately.

#### It is very likely that the Danish figures are of relatively high quality

Whilst we cannot claim that Danmarks Statistik's statistics for trade with the other EU countries are perfect, and they are possibly less accurate than before INTRASTAT was introduced, it is highly likely that they are of considerably better quality than quite a few other EU countries' statistics.

### 3.2. The National Bank's foreign exchange statistics

#### Transactions versus payments

External trade statistics record the value of movements of goods on the date on which the goods cross the Danish bor-

der, i.e. they report transactions. In contrast, the foreign exchange statistics compiled by Denmark's National Bank record payments on the date on which payment is actually made.

#### There are inevitably differences

Historically, there has been a fairly close correlation between payments for goods and goods transactions - cf. below. For various reasons, however, there are in practice differences between the two sets of statistics:

- The periodisation will be different, since it is typical for payment to be made after the actual transaction takes place, with trade credits being granted in international trade. Returns for the National Bank's foreign exchange statistics include information on the dates of both payment and transaction, and therefore adjustments can be made for this difference for the purpose of comparison<sup>(4)</sup>.
- The payments in the National Bank's foreign exchange statistics are compiled in terms of invoice values, which have no clear-cut link with the statistical values in foreign trade statistics, since invoice values depend on the delivery terms agreed. For import figures, however, it may be assumed that the invoice value is consistently lower than the statistical value (cif value)<sup>(5)</sup>.
- For various special movements of goods such as the import/export of goods following/for processing under contract or repair<sup>(6)</sup>, the National Bank's foreign exchange statistics include value added only, whereas in external trade statistics the goods are recorded at their full value. Furthermore, a whole range of goods movements, such as goods which have been exchanged provisionally,

<sup>(4)</sup> In the graphs which follow, the comparison is for practical reasons based on a 12 months' moving average of foreign exchange payments and foreign trade figures, without periodisation adjustments.

<sup>(5)</sup> A study of EU trade in 1997 shows that the cif value is around 3% higher than the invoice value - see Statistike Efterretninger: Udenrigshandel, 1998:6.

<sup>(6)</sup> Repair goods are not, however, included in external trade statistics totals.

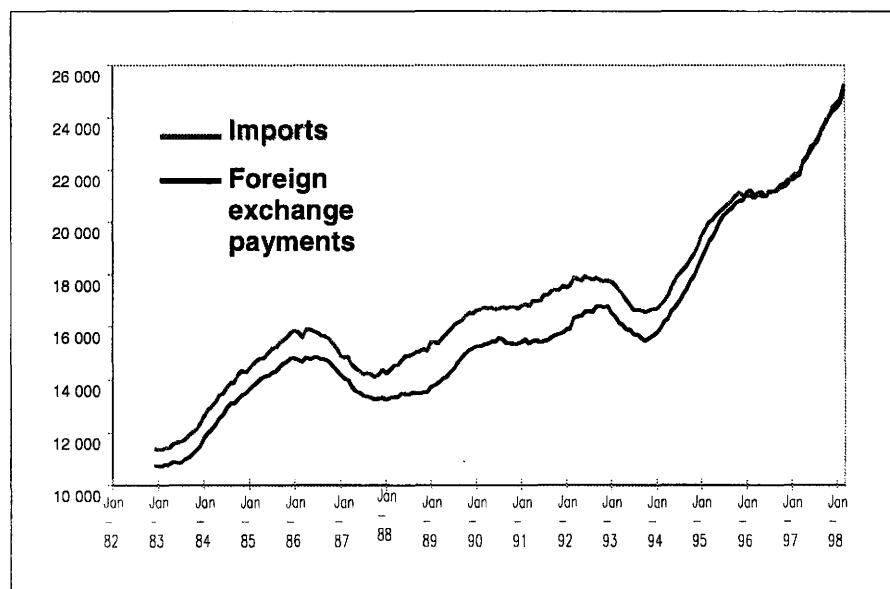
is excluded altogether from external trade statistics but the payment flows are still recorded in the National Bank's foreign exchange statistics.

#### Difference between imports and foreign exchange payments eliminated

Since INTRASTAT was introduced, the difference between the import

figures in external trade statistics and foreign exchange payments has gradually been eliminated - cf. Figure 4 - even though the fact that the two sets of statistics are compiled according to different valuation principles should mean that the import figures are higher than foreign exchange figures.

Figure 4.  
Denmark's imports and foreign exchange payments  
(DKK million, 12 months' moving average)



NB: Excluding imports of (payments for the purchase of) ships, aircraft and drilling platforms.

#### Possible reasons

There are various possible reasons why the gap between the import figures and foreign exchange payment figures has narrowed.

- A gradual switch from the reporting of statistical values to the reporting of invoice values. The fact that various computerised book-keeping systems which respond-

ents use to report to INTRASTAT do not have built into them any possibility of correcting directly for the ratio of one value level to the other lends weight to this hypothesis. If the respondents have been reporting invoice values for INTRASTAT since 1993<sup>(7)</sup>, this may also explain to some extent why the difference was virtually wiped out during 1995 - after Sweden, Denmark's second larg-

est trading partner, joined the EU.

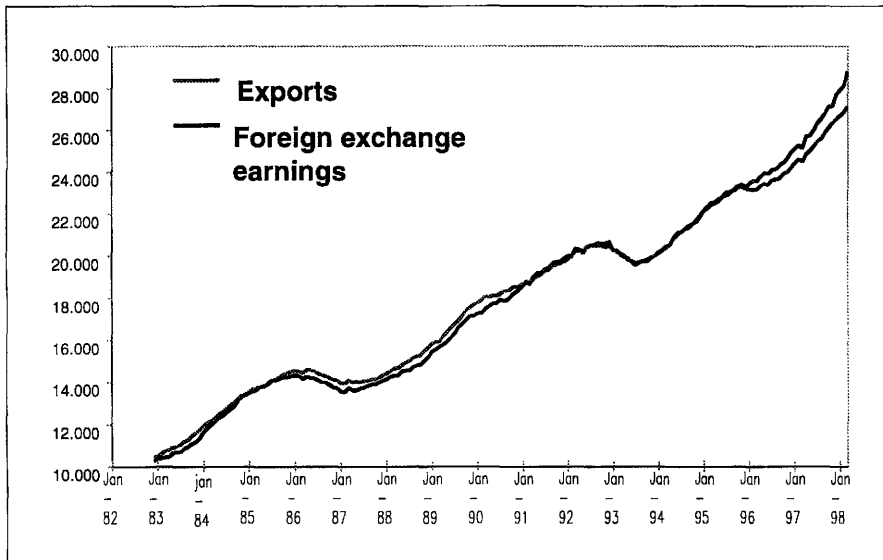
- Some firms avoid the obligation to report for INTRASTAT by filling in incorrect (too low) amounts on the VAT form under the heading for EU purchases of goods.
- Finally, the possibility cannot be ruled out that the figures in the National Bank's foreign exchange statistics are incorrect. It might be argued that a statistically correct distinction between payments for goods on the one hand and payments for services and financial payments on the other is more difficult nowadays than it used to be, one reason being that international payments are now much larger and more complex. The method for collecting the National Bank's foreign exchange statistics has not changed since INTRASTAT was introduced, and therefore this explanation is presumably not very likely.

#### Foreign exchange earnings now exceed exports

In the years following the introduction of INTRASTAT, and even before that, there was an almost perfect correlation between foreign exchange earnings and export figures - cf. Figure 5. During 1995, foreign exchange earnings began to exceed the value of exports, and since then the difference has increased.

<sup>(7)</sup> As from January 1998, respondents have to report invoice values for INTRASTAT, following which Danmarks Statistik estimates the statistical value. The external trade figures are still published in terms of statistical value.

Figure 5.  
Denmark's exports and foreign exchange earnings  
(DKK million, 12 months' moving average)



NB: Excluding exports of (earnings from the sale of) ships, aircraft and drilling platforms.

#### Reasons?

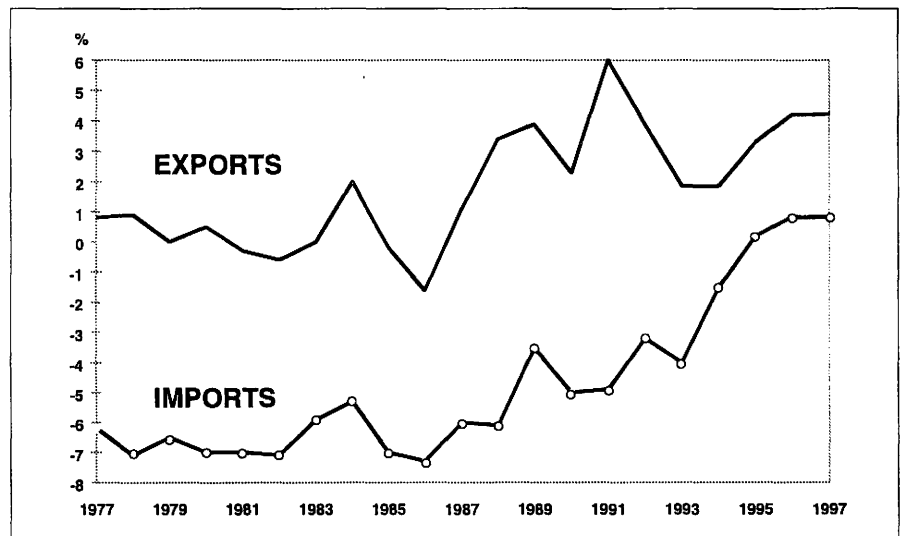
It is difficult to find plausible explanations for the growing gap between foreign exchange earnings and exports, since the level of export values (fob prices) must be assumed to be very close to that of the invoice values in the National Bank's foreign exchange statistics<sup>(8)</sup>.

#### Which figures are correct?

Movements in both imports and exports compared with the figures from the National Bank's foreign exchange statistics indicate that there are problems compiling external trade figures and/or foreign exchange payments correctly after 1 January 1993, and the problem has grown worse recently. It is not possible to be absolutely certain from the available statistical data which of the statistics give the more accurate picture of external trade movements. A genuine comparison of

foreign exchange payments and external trade figures is difficult, because if foreign exchange payments are un-

Figure 6.  
Correction percentages



NB: The correction percentage is the percentage by which the external trade figures, excluding trade with Greenland and the Faeroes, and excluding ships and aircraft, has to be adjusted to correspond to the periodised payments for goods in foreign exchange statistics. The figure shows the correction percentages applied. The percentages for 1996-98 are provisional.

der DKK 2 million the firm in question is not identified<sup>(9)</sup>.

#### Consequences for the balance of payments

One result of the changed relationships between external trade figures and payments for goods in foreign currencies is that the correction percentages used to ensure that the periodised payments of goods correspond to the balance of payments import and export concepts have also changed. As can be seen from Figure 6, there are commonly substantial downward adjustments of external trade import figures. Since INTRASTAT was introduced in 1993, the downward adjustment has gradually grown smaller, and in 1995-98 the import figures were adjusted upwards.

<sup>(8)</sup> A study of EU trade in 1997 shows that the fob value is approximately 1% lower than the invoice value - see Statistiske Efterretninger: Udenrigshandel, 1998:6.  
<sup>(9)</sup> The National Bank's foreign exchange statistics have been reorganised as from October 1998, so that firms receiving and sending payments can be identified in all cases where payment is for more than DKK 60 000.

### The effect on the balance of payments current account

Previously, correction percentages were used to ensure that the balance of payments figures for total trade in goods and services tallied with the "reperiodised" foreign exchange payments. The share of import and export amounts which could be considered to represent a service (insurance and transport costs etc.) was simply reclassified.

Since the introduction of INTRASTAT, the correction percentages applied no longer fully reflect the correction which

would have to be made to ensure that foreign exchange payments match total trade in goods and services, and for this reason the balance of payments current account cannot be derived directly from the "reperiodised" foreign exchange payments.

### 3.3. VAT statistics

#### Two new headings on the VAT form ...

With the introduction of INTRASTAT, a new ruling came in that firms had to re-

port on their VAT returns the size of their purchases (imports) and sales (exports) of goods from/to other EU countries. Two new headings were added to the VAT form: A (EU purchases of goods), and B (EU sales of goods).

#### ... are used to check INTRASTAT

Since then, the information under headings A and B has been the main independent check on INTRASTAT returns. As can be seen from Figure 7, the curves for VAT and INTRASTAT figures run almost exactly in parallel.

Figure 7.  
Comparison of external trade statistics and VAT statistics  
(DKK million)

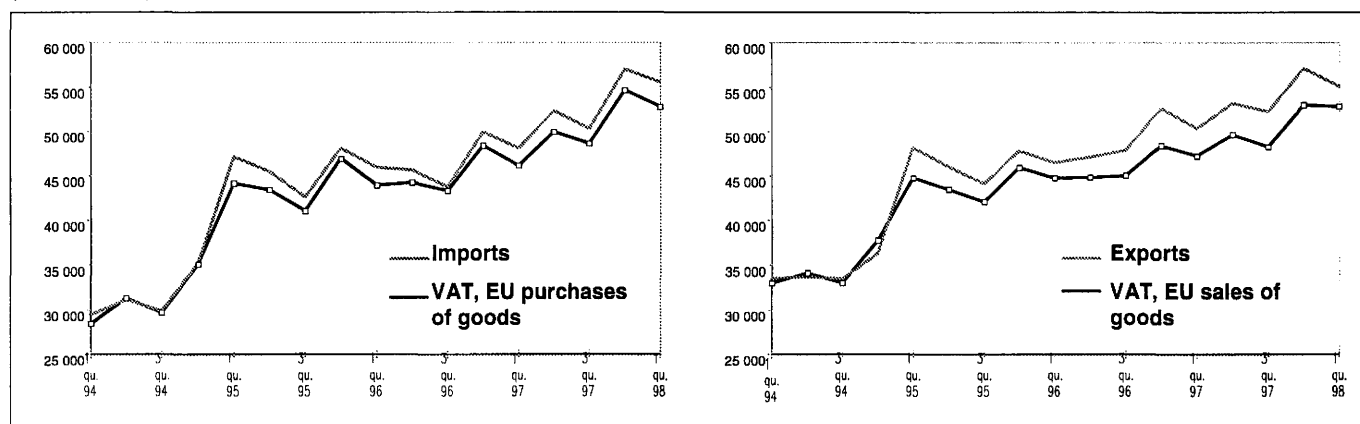


Table 1.  
Corrections to VAT and INTRASTAT returns

#### Size of the corrections

During most of the period, there is a close correlation between VAT and external trade figures. The graphs are virtually identical in the second quarter of 1998 because the checking of these figures and error corrections have only just begun. The agreement achieved between the VAT and the INTRASTAT figures is the result of a great deal of effort to correct both VAT and INTRASTAT figures. Table 1 shows the size of the corrections made to the VAT and INTRASTAT figures reported for 1995-1997 and the beginning of 1998.

	(DKK billion)			
	1995	1996	1997	1998
<b>Corrections to VAT returns</b>				
1. Imports adjusted upwards	4.4	2.5	3	0.1
2. Imports adjusted downwards	7.1	4.8	7.9	3.1
<b>3. Upward adjustment of imports, net (1-2)</b>	<b>-2.7</b>	<b>-2.2</b>	<b>-4.9</b>	<b>-3</b>
4. Exports adjusted upwards	2.7	2.2	2.4	0.1
5. Exports adjusted downwards	3.3	3.1	3.1	1.2
<b>6. Upward adjustment of exports, net (4-5)</b>	<b>-0.6</b>	<b>-0.9</b>	<b>-0.7</b>	<b>-1.1</b>
<b>Corrections to the INTRASTAT returns</b>				
1. Imports adjusted upwards	11.8	10.6	10	1.6
2. Imports adjusted downwards	5.8	5.1	4.7	0.5
<b>3. Upward adjustment of imports, net (1-2)</b>	<b>6.1</b>	<b>5.5</b>	<b>5.3</b>	<b>1.2</b>
4. Exports adjusted upwards	13.8	8.6	9.1	2.1
5. Exports adjusted downwards	6.7	4.8	7.1	0.7
<b>6. Upward adjustment of exports, net (4-5)</b>	<b>7</b>	<b>3.8</b>	<b>2.1</b>	<b>1.4</b>

NB: The figures for 1998 are provisional. The checking of figures for the second quarter of 1998 has just begun.

### Incomplete and incorrect INTRASTAT returns

As can be seen from Table 1, there are many incorrect returns in both the VAT and INTRASTAT figures. The corrections to INTRASTAT directly affect the compilation of external trade statistics, and here there is an obvious skew in the figures, since in net terms the adjustments are more up than down for both imports and exports. The reasons are clear recording errors and incomplete returns to INTRASTAT, including non-responses.

### Differences in concept ...

Figure 7 shows that the VAT figures for EU purchases and sales of goods are generally lower than the correspond-

ing INTRASTAT figures. The reason is that the import and export concepts are not the same in the two sets of statistics.

### ... INTRASTAT

#### figures should be higher ...

In INTRASTAT, the principle is that movements of goods across national borders should always be recorded, and at the full value of the goods. This is not the case in VAT statistics for all flows of goods. For example, with goods received/delivered following processing under contract in another country, value added only is recorded. The receipt/delivery of repair goods and of goods received/supplied under operational leasing contracts is not

included at all under heading A/B (classified as a service). In these cases, the level of the INTRASTAT figures should be higher than that of the VAT figures.

#### ... but they are not always

The opposite is also the case in practice, however, since VAT-exempt sales of services to other EU countries, for example, are incorrectly included under heading B (they ought to be under heading C) or excise duties and services are included on the VAT form. Furthermore, EU trade in goods by enterprises under the INTRASTAT thresholds should also be recorded on the VAT form. This is the information used to determine the population which has to report for INTRASTAT<sup>(10)</sup>.

Table 2.

Discrepancies resulting from conceptual differences, 1997 and 1998

	Imports		Exports	
	1997			
	DKK million	%	DKK million	%
Different SE number	8 554	66.4	1 981	28.5
Processing under contract	138	1.1	93	1.3
Shift in periodicity	3 493	27.1	2 268	32.6
Services included	127	1	17	0.2
Repairs	19	0.1	23	0.3
Other reasons	559	4.3	2 565	36.9
<b>Total</b>	<b>12 890</b>	<b>100</b>	<b>6 947</b>	<b>100</b>
	1998			
	DKK million	%	DKK million	%
Different SE number	1 308	87.9	33	4.7
Processing under contract	0	0	0	0
Shift in periodicity	178	12	267	38.3
Services included	0	0	0	0
Repairs	0	0	0	0
Other reasons	1	0.1	396	57
<b>Total</b>	<b>1 487</b>	<b>100</b>	<b>695</b>	<b>100</b>

NB: The discrepancies may have different mathematical signs both from one group to another and within one and the same group, and for this reason the figures shown are the numerical totals of the discrepancies found to be acceptable as a result of conceptual differences. The figures for 1998 are provisional, covering mainly the first quarter of the year.

### Further discrepancies

Other sources of discrepancies between INTRASTAT and VAT figures include: shifts in periodicity, reporting under different SE numbers [registration numbers for firms in the business register]<sup>(11)</sup>, differences in the date of recording for partial deliveries and, in the period 1993-97, differences in value levels (invoice values as opposed to statistical values).

### Size of differences

When Denmark's Statistik checks INTRASTAT and VAT information, it systematically records the size of conceptual differences, which are thus legitimate reasons for discrepancies in the figures. Table 2 shows the figures for 1997 and 1998, broken down by selected cause of discrepancy.

<sup>(10)</sup> The information on the VAT form is used to estimate external trade figures for both enterprises under the thresholds and non-responses. The external trade figures in Figure 7 include the estimated figures.

<sup>(11)</sup> This is to a large extent corrected by collecting individual SE units together at a higher level (e.g. the firm's legal number) before a business is contacted for an explanation of differences between INTRASTAT and VAT returns. The cross-references in the business register for the different types of register number are not perfect, however, and for this reason any difference can often not be explained until the firm in question is contacted.



### Most important causes

The main reasons for the discrepancies in terms of amount include returns under different SE numbers, differences in the recording of goods for/after processing under contract and shifts in periodicity.

It is usual to have the same SE number on the exports side. In practice, it is much easier to keep a grip on the SE numbers used for reporting to INTRASTAT and on the VAT form in the case of export figures than with import figures. This is because firms selling goods to EU countries have to give the customs authorities the recipient's VAT number as well.

### VIES ...

For sales to other EU countries, VAT is not counted in Denmark since it is collected in the country of consumption. Since border formalities were abolished for EU trade as of 1 January 1993 but the VAT regulations remained unchanged, a system was introduced whereby exporters have to give the purchaser's VAT number: the VIES system (Value Added Tax Information Exchange System).

### ... 1995 data investigated ...

The VIES is a further interesting source which can be used to check INTRASTAT returns as they relate to exports, since it includes information on the EU country to which exports are sent, information which is not given on the VAT forms. Danmarks Statistik has investigated VIES data for 1995 and compared them with the INTRASTAT returns and the information on the VAT form under heading B. This showed that extensive statistical processing of data would be necessary merely to establish a correlation between VIES data and the heading B data.

### ... but they will probably not be in the future

The study of the returns from various individual firms for the VIES, INTRASTAT and the VAT form heading B also showed that, as far as checking was concerned, there was no great advantage in using the VIES information. Since it is a particularly onerous process to adjust information sent in for more than one purpose, and the potential gains from the use of national VIES information in isolation are considered to be minor, Danmarks Statistik

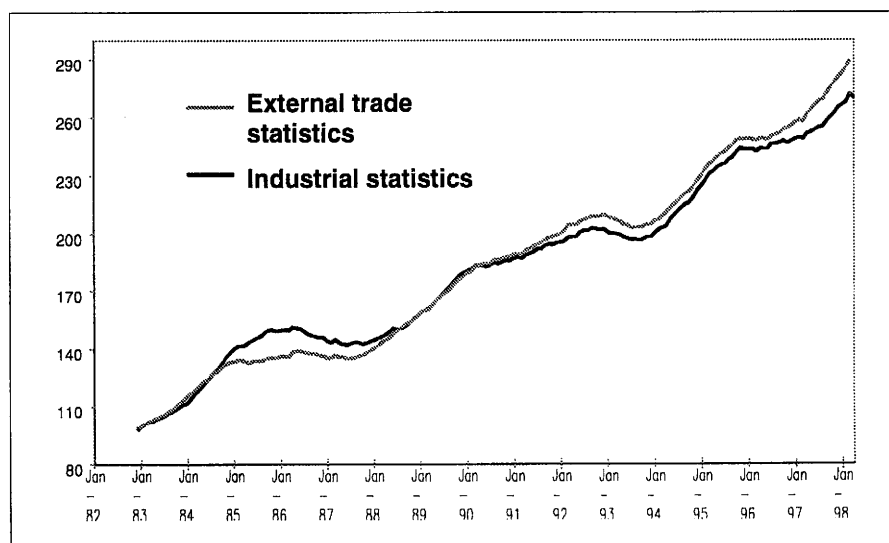
is not intending to make further use of the national VIES information, as things stand at present.

### 3.4. Industrial statistics

#### A further source for exports

Danmarks Statistik collects monthly data on the orders and turnover of the larger industrial enterprises, including information on export sales. Figure 8 compares this information with the export figures from external trade statistics.

Figure 8.  
Exports of industrial goods  
(Index January 1983 = 100, 12 months' moving average)



### Not an ideal comparison

One of the intrinsic weaknesses of this comparison is that the subset of external trade export figures taken into account consists solely of industrial goods - the fact that goods may be exported by non-industrial firms such as commercial enterprises is disregarded.

### Good agreement in general ...

As can be seen from Figure 8, there is a remarkably fine correlation between

the turnover of industrial enterprises on the export markets and the export figures from external trade statistics, but there are minor differences, both before and after the introduction of INTRASTAT.

### ... but a greater difference since the middle of 1996

Since the middle of 1996, exports of industrial goods according to external trade statistics have risen rather more rapidly than the industrial statistics' figures suggest - i.e. just the opposite of

what happens when total external trade statistics export figures are compared with foreign exchange earnings - cf. Figure 5.

### 3.5. Price statistics

#### The value level is in principle the statistical value ...

For returns to both INTRASTAT and EXTRASTAT up to December 1997 inclusive, the statistical value of the goods should be given, i.e. their value free to the Danish border (see Section 3.1). As from January 1998, the INTRASTAT returns have switched to reporting invoice values. Danmarks Statistik then estimates the statistical value, which is still the value level used for the publication of external trade figures<sup>(12)</sup>.

#### ... but the invoice value can be found in firms' accounting systems

The values recorded in company accounts are, of course, invoice values. It is extremely difficult in practice to ascertain any definite link between the invoice value and the statistical value, since the former depends on delivery terms agreed between sellers and buyers. If the delivery terms specified on an invoice do not correspond exactly with those required for the statistical value, the statistical value has to be an estimate. In EXTRASTAT, it may be assumed that for imports there is a very sound estimate of the statisti-

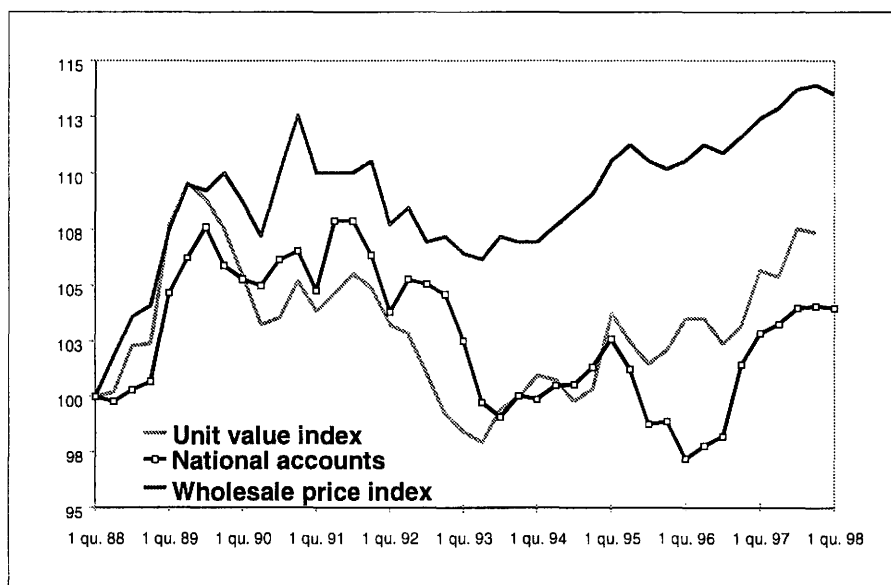
cal value, since this forms the basis for the calculation of import VAT and customs duties.

#### Are invoice values now reported?

In INTRASTAT, where the information is collected for statistical purposes alone, there is no corresponding fis-

cal interest in reporting the correct value level for external trade statistics. Figure 9 attempts to show whether there has been a shift from statistical value to invoice value since INTRASTAT was introduced by comparing price movements using different "price indices", which cover trends for imported goods.

Figure 9.  
Import prices  
(index for the first quarter of 1988 = 100)



#### Major differences

Substantial differences can be seen in the trends in the various indices both before and after the introduction of INTRASTAT. It is scarcely possible - at aggregate level, at least - to say with absolute certainty by comparing the different "price indices"<sup>(13)</sup> whether there has been a drop in the value level reported to INTRASTAT.

## 4. POSSIBLE WAYS OF IMPROVING QUALITY

### 4.1. Size of the problem

#### The problems have to be solved

There is little doubt that there are problems with the quality of external trade statistics - as there presumably always

<sup>(12)</sup> Danmarks Statistik has examined the ratio of invoice value to statistical value and published the result in *Statistiske Efterretninger: Udenrigshandel*, 1998:6.

<sup>(13)</sup> The technicalities of the index calculations may in themselves be partly responsible for the differences: the external trade statistics unit value index is a Fisher-type chain index, the wholesale price index is a Laspeyres index (with fixed weights) and the quarterly national accounts' implicit price index is a Paasche index (with current weights). In addition, the calculation of the unit value index on the basis of the external trade statistics unit values totally disregards quality changes - a point which is always taken into account for the calculation of "correct" price indices.

have been, but the problems appear to be greater today than before INTRASTAT was introduced. Danmarks Statistik is continually working to improve the quality and is introducing new initiatives all the time to this end, but how great is the problem?

#### **Most respondents supply reasonable figures on time ...**

In Danmarks Statistik's experience, the vast majority of parties responsible for providing INTRASTAT information report figures of reasonable quality. When the present quality of the external trade figures is assessed, it should be remembered that prior to 1993 quality was to a large extent determined by fiscal interests linked with the checks on external trade, and thus even a relatively small number of incorrect or missing returns would show up in a perceptible drop in the published external trade figures<sup>(14)</sup>.

#### **... but there are also many errors ...**

The reason for the drop in the quality of external trade statistics is, of course, incorrect and/or missing INTRASTAT returns. Danmarks Statistik notes that the scale of incorrect returns has risen substantially since INTRASTAT was introduced: each month, some 20 000 absolute errors are detected (incorrect goods codes, headings not completed properly, etc.) and there are 10 to 12 people whose sole task every day is to check and correct probable errors (reported values which appear unlikely when compared with previous returns or differences between the INTRASTAT returns and the figures on the VAT form under headings A/B).

#### **... and many reminders have to be issued**

There are also major problems getting the returns submitted on time. Every month, a reminder (postcard) that 10 working days have now passed since the end of the month is sent to around 15% (on average) of respondents - and a new deadline is given on the postcard<sup>(15)</sup>. Around 2% of these respondents fail to send information to INTRASTAT before the new deadline but choose to pay a handling charge of DKK 550, which, however, in no way exempts them from the obligation to submit returns. Around ¾% of those responsible for providing information do not submit returns after paying the handling charge (non-response).

### **4.2. Motivating respondents**

#### **Initiatives to improve motivation**

One reason why quite a number of the parties responsible for providing INTRASTAT information do not comply with their obligations satisfactorily could be lack of motivation. Danmarks Statistik has therefore implemented various initiatives to improve motivation.

#### **Initiatives already up and running ...**

- One criticism frequently voiced by respondents and business organisations is that it is too complicated to send in declarations to INTRASTAT. On 1 January 1997, various simplifications were introduced. The number of codes for the nature of the transaction was reduced, the mode of transport became voluntary and it became possible to report credit

notes<sup>(16)</sup>. With the returns for January 1998, respondents have to report invoice value rather than statistical value. We may expect further simplifications, too, since the EU has carried out extensive surveys to come up with ideas for simplification - known generally as SLIM projects (Simpler Legislation for the Internal Market).

- As already mentioned, some 2% of parties who are supposed to provide INTRASTAT information do not send in their declarations on time but pay the handling charge of DKK 550 - which does not, however, exempt them from the obligation to send in the information. In 1997, Danmarks Statistik introduced a more stringent reminder procedure for selected respondents: a registered letter of reminder is sent, giving an absolutely final deadline for the submission of information, and if this deadline is not met the firms in question are reported to the police. Experience with the use of this procedure has been positive. For the time being, it is being used only for larger enterprises not sending in their INTRASTAT declarations. Danmarks Statistik would rather not use the more stringent procedure<sup>(17)</sup>, but for certain respondents it would seem unavoidable.

#### **... and initiatives being weighed up**

Danmarks Statistik is also considering implementing the following initiatives to motivate respondents in the future.

- Business organisations have told Danmarks Statistik that many firms find it difficult to see why external trade statistics should be collected - and does Danmarks Statistik use these

<sup>(14)</sup> If it is assumed, for example, that the figures from the National Bank's foreign exchange statistics are more likely to be correct than the external trade figures, the quality problem can be considered to account for roughly 5% in round figures (underestimate of imports, if the same ratio of foreign exchange payments to imports is established as prior to 1 January 1993).

<sup>(15)</sup> It is not the same firms which consistently fail to send in returns every month, but there are quite a few which crop up repeatedly.

<sup>(16)</sup> In addition, with the increase in threshold levels, approximately 4 000 enterprises became totally exempt from the obligation to submit returns - although this did not help to improve the quality of external trade statistics.

<sup>(17)</sup> One of the main reasons is that it requires considerable use of resources to collect in statistical information with the help of the police.

figures anyway? All returns for external trade statistics are used and no superfluous information is collected. This could be brought home to respondents by various forms of direct feedback. How far this would motivate respondents and make them more disciplined is uncertain, but one thing is clear: regular feedback to all 10 500 or so INTRASTAT respondents would cost a great deal of money.

- Various EU surveys have shown that on average respondents spend around one day per month<sup>(16)</sup> filling in their returns for INTRASTAT, which is the statistical census involving the greatest burden for respondents. In practice, respondents can nowadays postpone their returns by first of all not sending them in so that they get a new deadline in the reminder and then by paying a handling charge of DKK 550. Consideration might be given to issuing a bill for the handling charge without any prior reminder, as the present „friendly“ way of dealing with the problem is the main reason for the very late publication of external trade statistics compared with the old days.

### 4.3. Towards more effective error searches and corrections

#### 4.3.1. Error searches and corrections at present

##### Still many errors

There are many errors in the INTRASTAT returns, and even with the considerable resources used at present to search out and correct them - cf. section 4.1 - it is not possible to "get to the bottom of" the problem.

##### VAT check and probable errors

Nowadays, the error search and correction process concentrates on the VAT check (see section 3.3.) and various plausibility checks consisting primarily of examining whether the ratio of reported values to quantities (net weight in kilograms and/or supplementary units such as individual items and litres) tallies with the figures recorded previously (probable errors).

##### From telephone calls ...

Until 1 October 1997, probable errors were corrected by telephone calls to respondents, and this proved satisfactory: cooperation with respondents was good and extensive corrections were made which improved the quality of external trade statistics. This procedure is, however, extremely expensive in its use of resources, and for this reason it was never possible to correct all the

figures thoroughly, but only to investigate those items where the amounts involved were largest and which seemed suspicious.

##### ... to written procedure

In October 1997, Danmarks Statistik began to send out computerised standard error letters, stating clearly the kind of error which seemed likely. The error notices are written and sent out every week, two days after Danmarks Statistik has received the returns from Told-Skat, if not before. If the respondents stand by their figures, they are asked for a brief explanation, and this is systematically input into a database which serves as a record intended to ensure that unnecessary reminders are avoided in future. From 1 October 1997 to 2 September 1998, on average 1 043 notices were sent out each week relating to items where mistakes were suspected - cf. Table 3.

Table 3.  
Error notices sent out - probable errors  
(Weekly average, 1 October 1997 to 2 September 1998)

	Sent out	Reminders	No change	Corrected	Missing
Number	1 043	490	561	433	31
Percentage*		47	55.4	42.8	3

\* The percentage for reminders and missing returns is calculated in relation to the number of notices sent out. The other percentages are calculated on the basis of the number of notices sent out minus missing returns.

##### Errors in 42.8% of cases

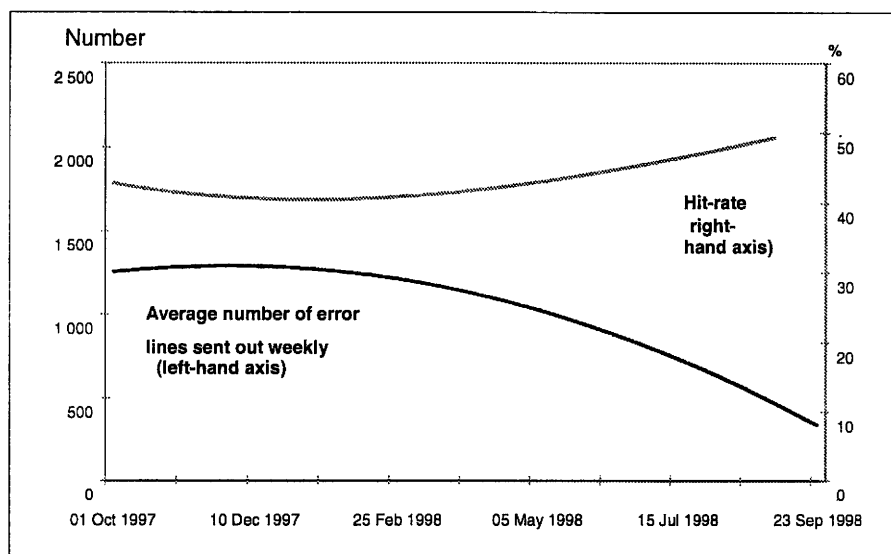
Approximately 95% of the error notices sent out elicited a response, but over 45% of respondents had to be contacted by telephone before they answered. In just over 40% of cases, values were corrected.

##### Trends ...

Changes in the number of contacts with firms and in the percentages of contacts which lead to a correction (the „hit rate“) are shown in Figure 10, where the weekly figures (which often fluctuate sharply) are smoothed out.

<sup>(16)</sup> cf. Eurostat: INTRASTAT opinion polls. The point of view of providers and users, Luxembourg April 1996, page 18.

Figure 10.  
Changes in the number of error lines sent out and hit rate (probable errors)



#### Fewer reminders to firms ...

During virtually all of the period in question, there was a sharp fall in the number of error notices sent out, primarily because the error search was improved and thus efforts were invariably concentrated on finding the most important errors (and getting them corrected). The drop in the figures cannot therefore be taken as an indication that the quality of the returns improved over the period.

#### ... higher hit rate

During most of the period, the number of contacts leading to a correction of the returns (hit rate) grew in percentage terms, and is now close on 50%. The objective from now on is to increase this hit rate further.

#### Discretion

Various flows of goods are kept confidential for discretionary reasons when the external trade statistics are published at detailed level. The errors in these figures are always corrected by

telephone calls to the respondents (not included in Table 3 and Figure 10).

#### 4.3.2. Error searches and corrections in the future

##### Improved error searches ...

Not all the existing possibilities for error searches and checks are as yet being exploited to the full and new ones will be coming in before long, as follows:

- Monthly returns *for statistics on orders and turnover in industry* will in future be compared with the returns for external trade statistics at enterprise level, so that any lack of agreement in export figures may be identified. These data correlations will result only in extremely rapid checks at macro level, however, since the returns for statistics on industrial orders and turnover do not include information on the distribution of export turnover by good or by country.
- As from October 1998, the *National Bank's foreign exchange statistics* are being reorganised so that all for-

eight exchange payments over DKK 60 000 may be identified at enterprise level.

- One basic source of uncertainty when it comes to publishing the external trade figures for the first two months in a quarter is that no comparisons can be made with VAT figures, since for most enterprises these are available only quarterly. From January 1999, monthly VAT settlement is being introduced for the larger enterprises, and this will make possible a more accurate and up-to-date adjustment of the INTRASTAT and the VAT figures.
- All EU countries collect information on sales of goods to the other EU countries (VIES), and thus data already exist which could be used to check imports of goods, the flow in respect of which all EU countries' INTRASTAT returns would appear most likely to include errors: Danish purchases of goods from other EU countries (cf. heading A of the VAT form) should largely coincide with the other EU countries' VIES information on sales of goods to Denmark. Since the VIES system includes information on the countries to which the goods are sold and identifies the purchasers (importers), it is also possible to check the importers' total INTRASTAT returns as they relate to imports from the individual EU countries. **Coordinated, simultaneous use of all EU countries' VIES information** could therefore give independent figures broken down by country and enterprise for all EU countries' imports from the other EU countries - without the need for collecting new information. The use of this checking facility is, however, hampered by the fact that the tax authorities in the EU countries have been reluctant to make data available to statistical offices<sup>(19)</sup>.

<sup>(19)</sup> In the near future, however, it is expected that the EU Commission will put forward a proposal to make the exchange of data between the individual countries' statistical offices and other national administrations mandatory. It is also expected that the individual EU statistical offices will be able to gain access to detailed data in other EU countries if the information is used solely for statistical purposes.

**ANNEX 1  
MIRROR STATISTICS  
FOR DENMARK AND  
THE OTHER EU COUNTRIES**

**What do the graphs show?**

The graphs below compare Danish external trade figures with the other EU countries' figures for Denmark (mirror transactions). In each graph, the white curve represents the figures compiled by Danmarks Statistik and the black

curve those compiled by the mirror country's statistical office.

**Trade not broken down**

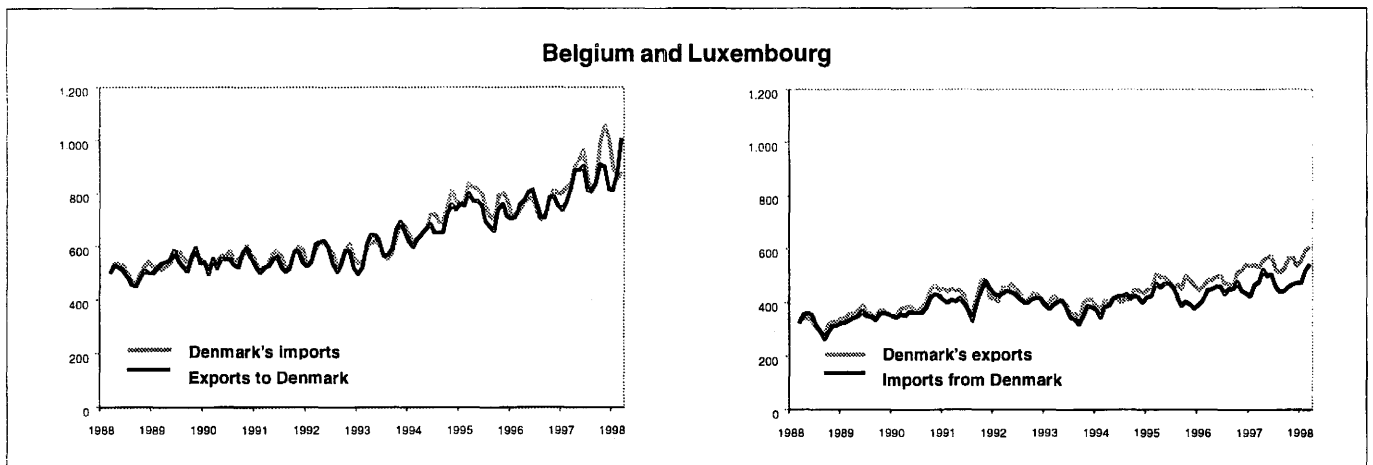
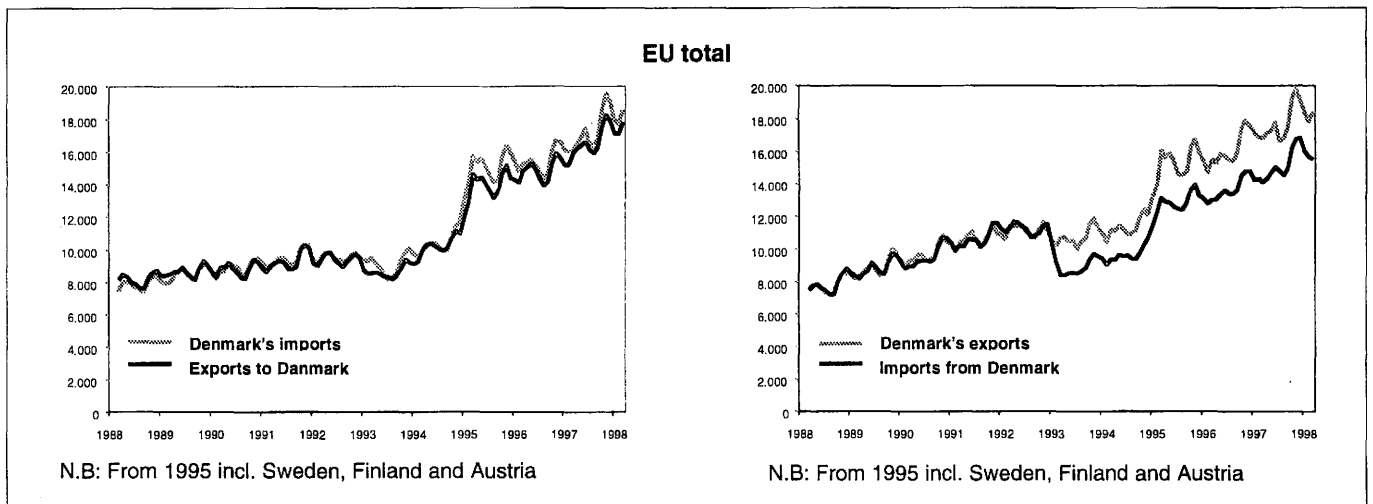
Ireland, Sweden and Finland do not break all their EU trade down by country, and therefore trade not broken down has been divided pro rata over all the partner countries.

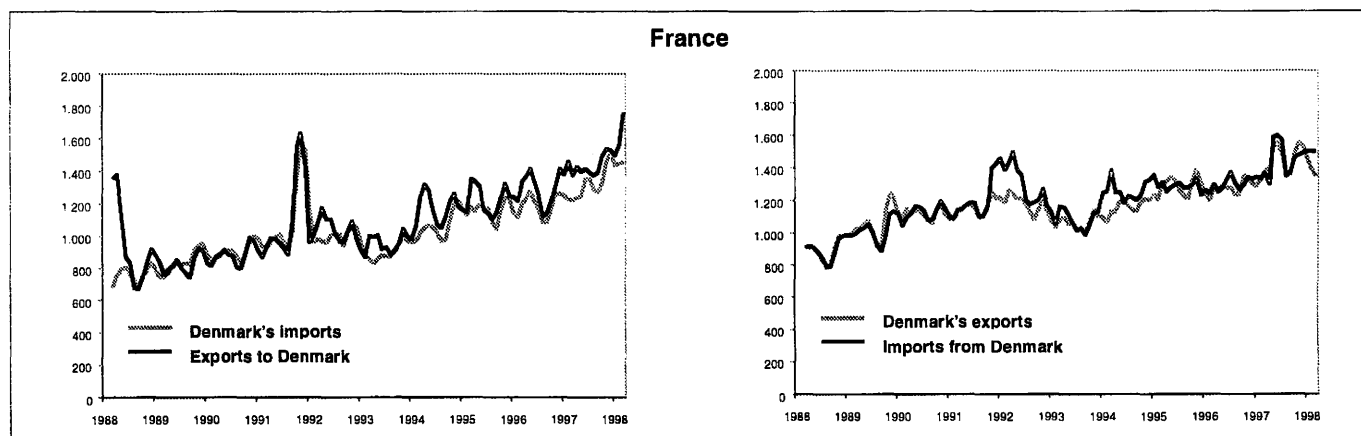
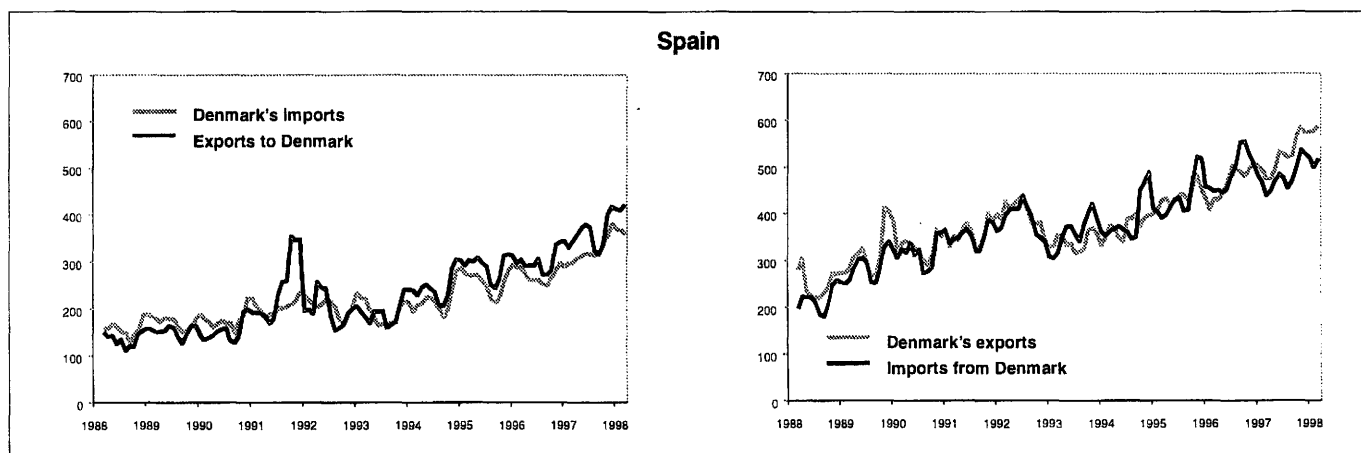
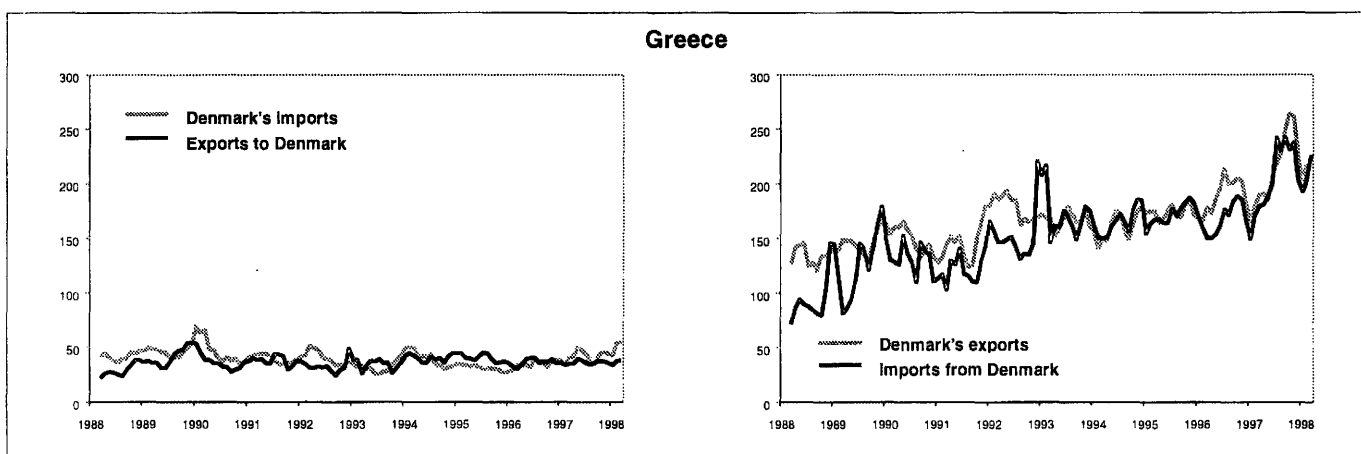
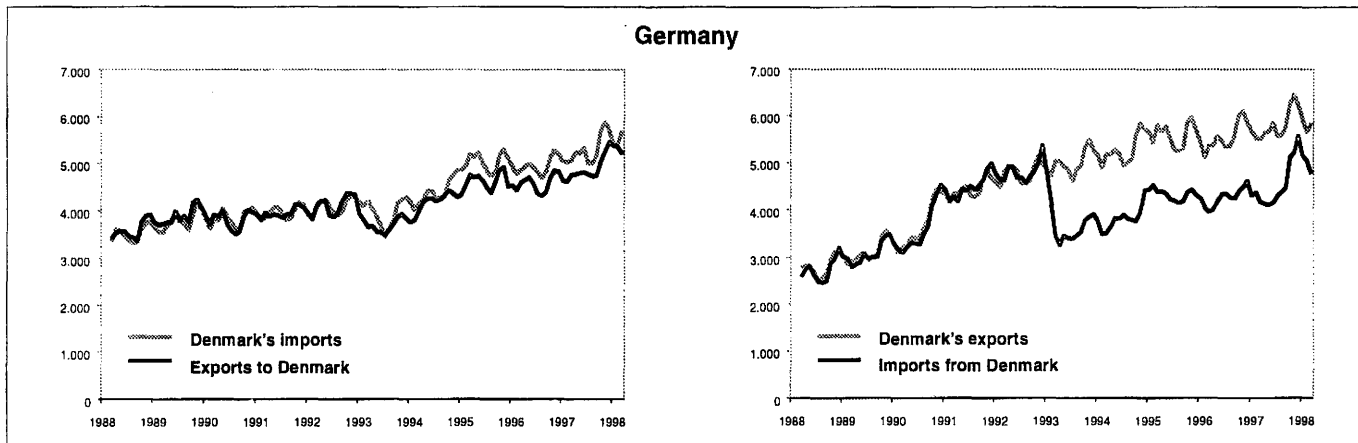
**Presentation**

The curves shown are 3 months' moving averages (not centred) of monthly observations.

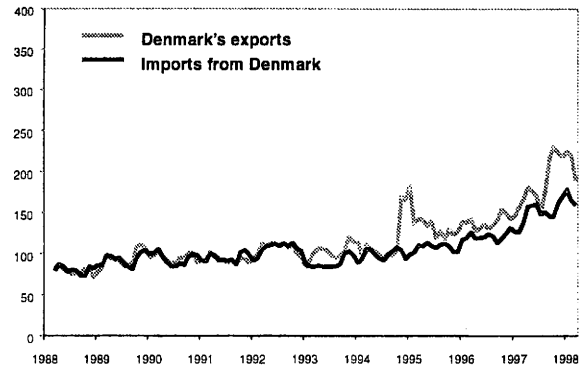
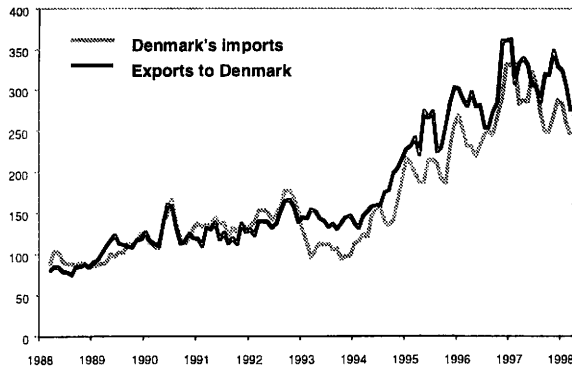
**Sources**

Data for the other EU countries come from Eurostat's external trade statistics database COMEXT. N.B: the Danish figures in COMEXT differ from Danmarks Statistik's publications in that the COMEXT figures are compiled according to the special trade principle and repair goods are included. Danmarks Statistik uses the general trade principle and does not include goods for repair in its published external trade figures. The difference is minor.

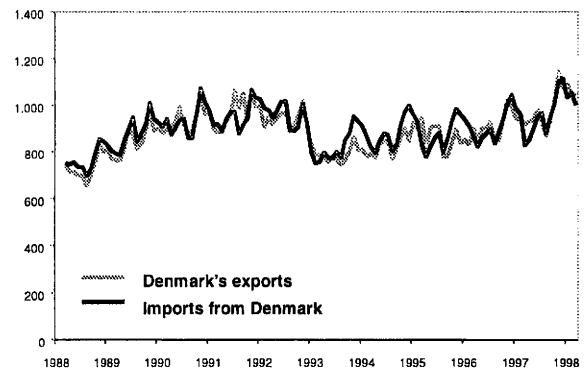
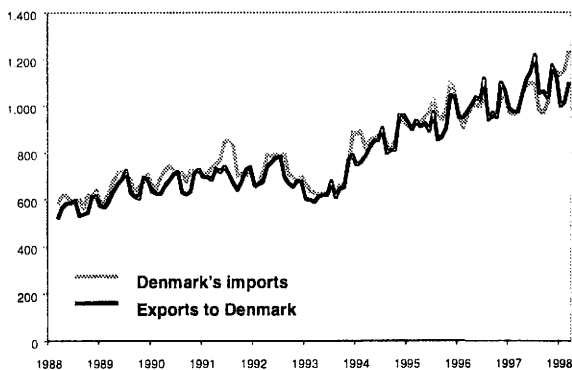




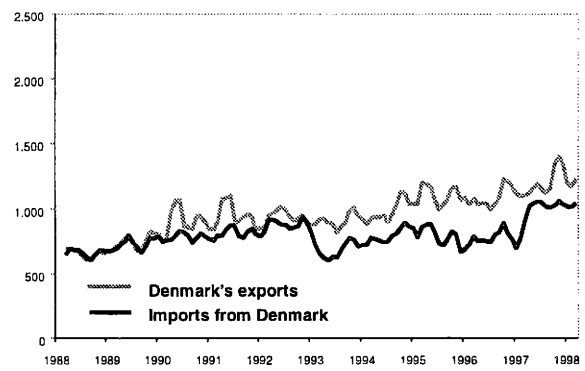
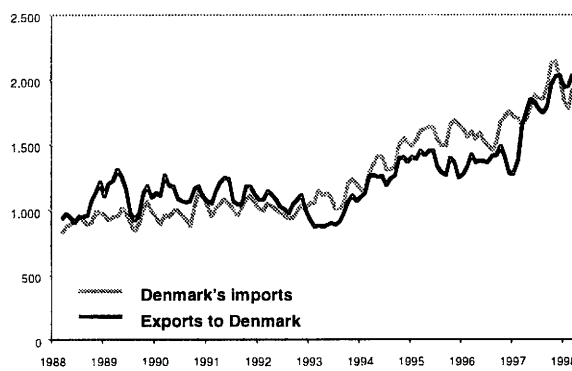
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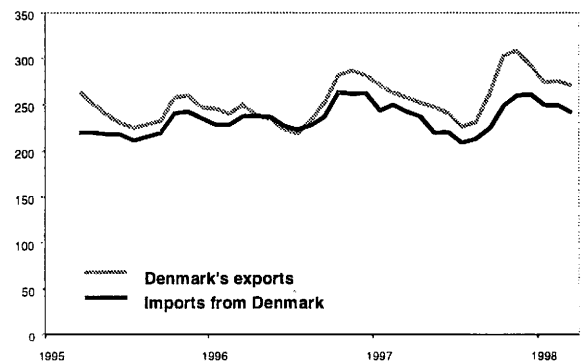
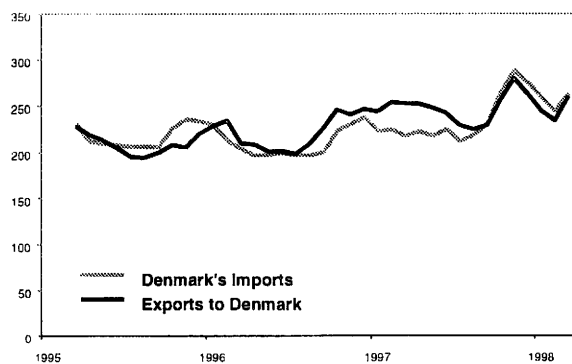
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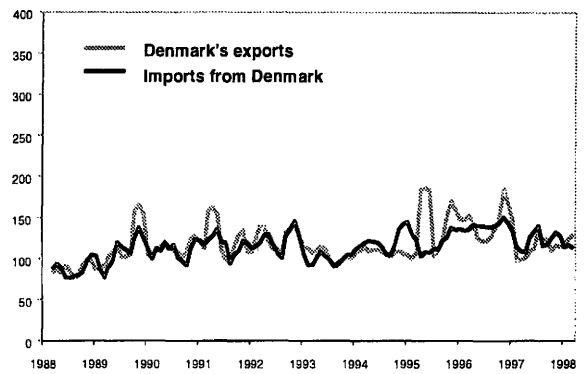
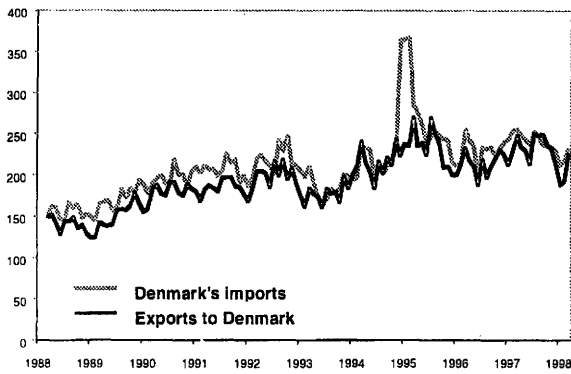


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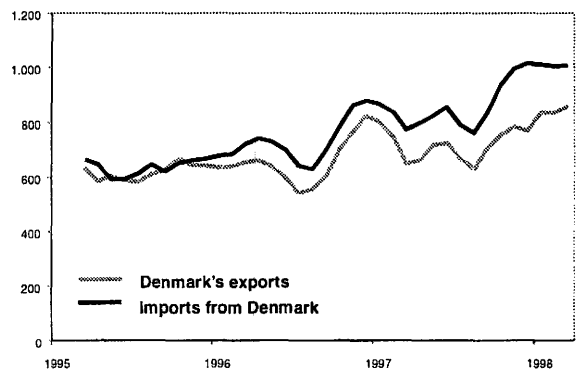
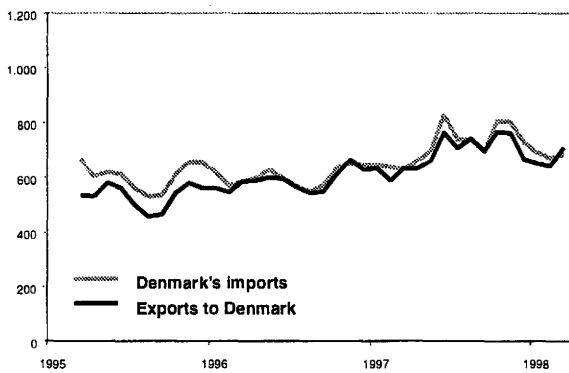




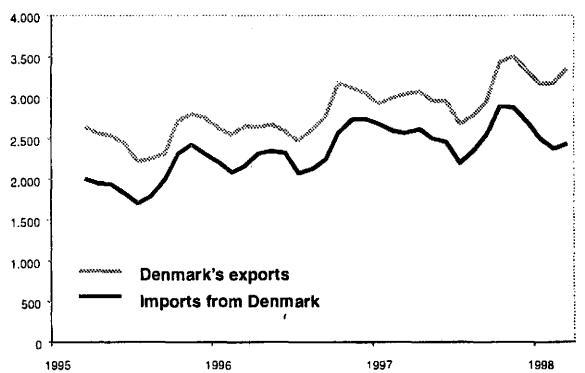
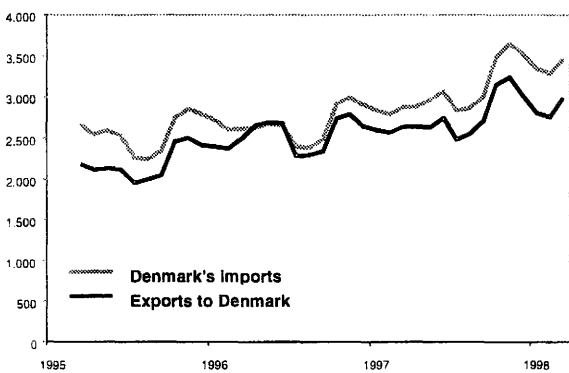
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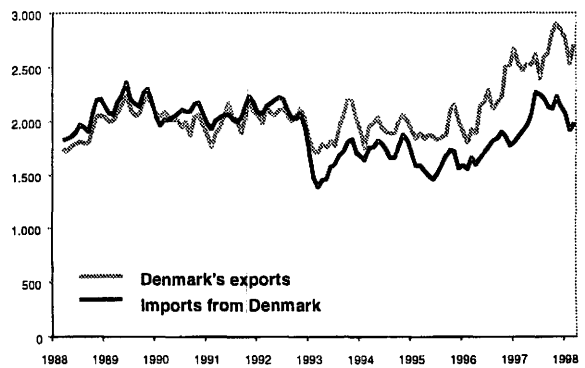
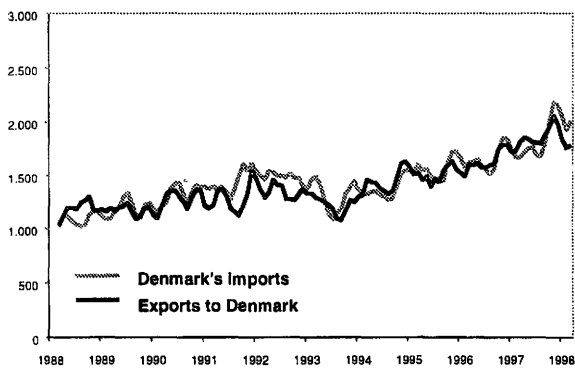
Finland



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## **THE EDICOM PROJECT IN SPAIN**

*Agencia Tributaria,  
Subdirección General de Planificación y Estadística  
en el Departamento de Aduanas e I. EE., Spain  
Reyes Crespo-Soares, Susana Betrán*

Since January 1993, when customs formalities were abolished, the Intrastat declaration has made its appearance, the EDICOM Decision has been approved and the national authority responsible for Intrastat - the Customs and Excise Department (Departamento de Aduanas e Impuestos Especiales) of the State Agency for the Administration of Taxation (Agencia Estatal de Administración Tributaria) - has made enormous efforts to promote EDICOM in Spain.

Once the appropriate steps had been taken and procedures set up to prevent declarants from infringing the regulations or failing to meet their obligations, dissemination began, with a high percentage of users taking advantage of the IDEP/CN8 program. This program was developed to help the parties responsible for providing the statistical information (PSIs) to generate their Intrastat declarations.

To publicise EDICOM, some 200 courses on the IDEP/CN8 program were held throughout Spain, with the Customs Department staff taking an active part. The outcome has been high

usage of the IDEP/CN8 program in our country.

Once the required level of returns had been achieved, work began to promote the submission of declarations on magnetic media. Since the 1<sup>st</sup> of January, 1997, the only format used has been the standard EDIFACT INSTAT message, a subset of the CUSDEC message.

The electronic media accepted are diskette and telecommunications, the only outputs of the IDEP program permitted in the Spanish configuration of IDEP/CN8.

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### **USE OF THE IDEP/CN8 PROGRAM**

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In Spain, virtually all declarations submitted on diskette or via telecommunications are generated by the IDEP/CN8 program. The latest statistics on the declarations submitted in this way, which refer to May 1998, show that 18,034 or 32% of the total of 55,478

declarations presented were via electronic media.

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### **INTRASTAT DECLARATION ON PAPER**

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The objective of the Customs and Excise Department in Spain has been to reduce the numbers of such declarations and replace them by electronic media, in particular telecommunications.

Paper generates most work for both PSIs and the administration, in both central and provincial Intrastat offices, since the data have to be input manually into the Customs Department's data-processing systems.

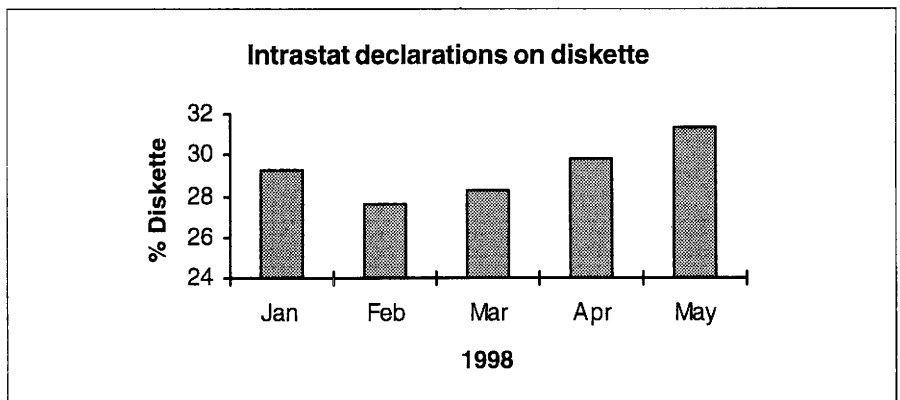
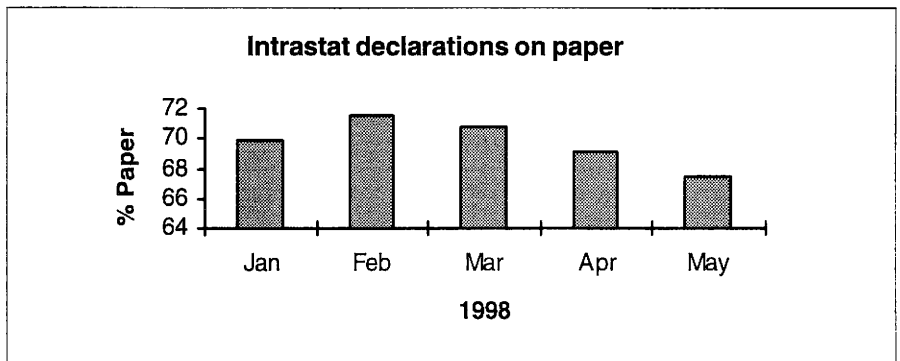
Over the past few months for which figures are available, there has been a slight drop in the percentage of paper declarations and a corresponding increase in declarations on magnetic media, as the following graph shows:

## INTRASTAT DECLARATIONS ON DISKETTE

The commonest form of presentation after paper is declaration on diskette generated via the IDEP/CN8 program. According to the latest statistics, these accounted for 31.37% in May 1998.

The Customs Department has developed a computer program to validate the content of the messages and input the declaration data automatically into the State Agency's data-processing systems.

As the following graph shows, there has been an increase in this form of submission over the past few months:



## SUBMISSION OF THE INTRASTAT DECLARATION VIA TELECOMMUNICATIONS

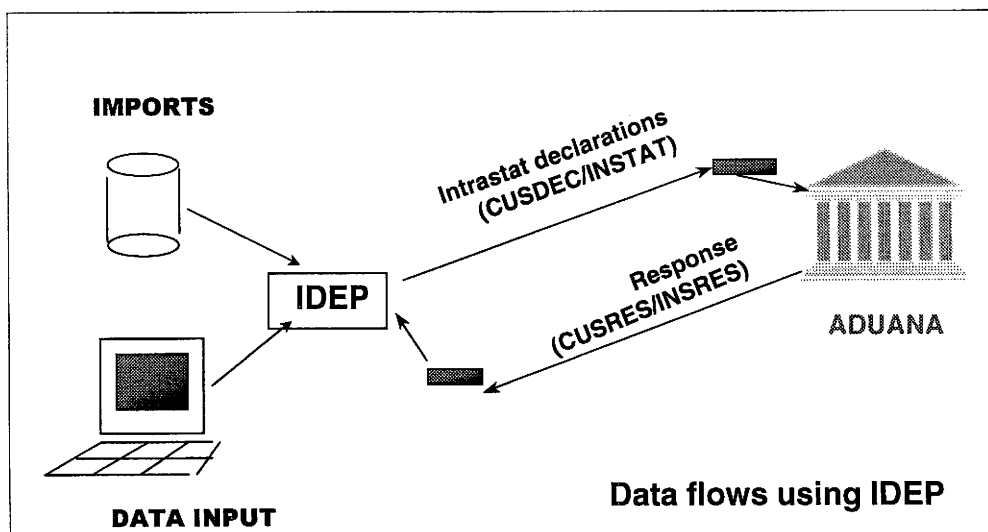
Since 1997, the Customs Department has been encouraging the sending of Intrastat declarations via telecommunications, using the EDIFACT

messages CUSDEC/INSTAT and CUSRES/INSRES.

The information systems department of the State Agency has expanded its existing Customs EDI system to include the messages associated with the Intrastat declaration.

In this way, PSIs may send their declarations via value added networks to the electronic mailbox which the Customs

Department has set up, following authorisation. Similarly, PSIs have to obtain an electronic mailbox from one of the value added networks operating in Spain which have been authorised to provide this service. In this mailbox, PSIs will receive the Customs' response to their declarations, which will state whether they have been accepted or rejected as incorrect. This response will be displayed via the IDEP/CN8 program.



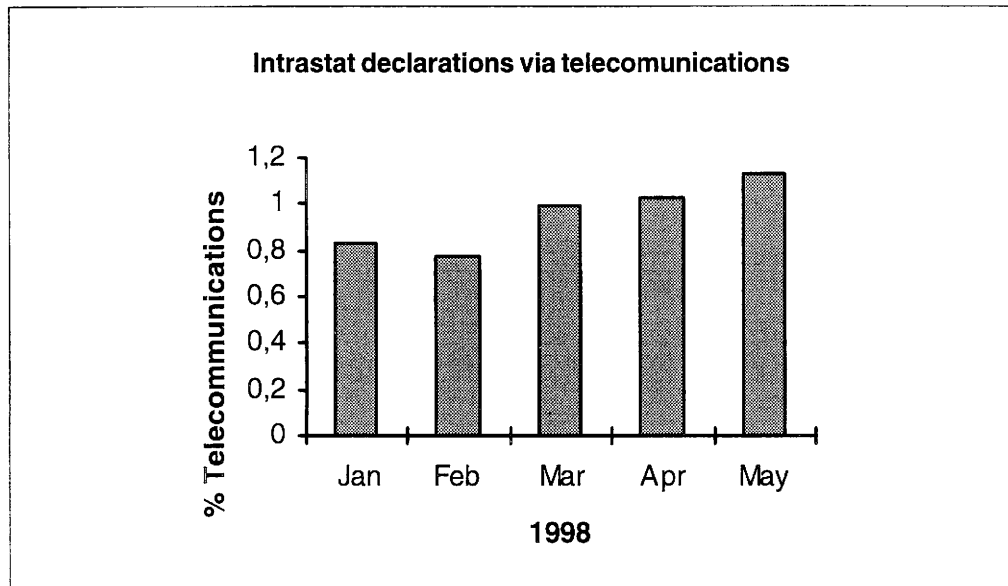
The value added networks operating in Spain may offer their services to PSIs if they state their intention to do so. The Customs Department then incorporates this communica-

tions program into IDEP/CN8 and distributes both to users free of charge.

The percentage use of this type of submission procedure is still low,

but the Spanish authorities are trying to improve the figures.

The percentages for this year are as follows:



The Customs Department is currently carrying out two main activities to promote this system of submission, namely:

- holding talks with businesses on submitting declarations via telecommunications, to which businesses providing value added network services are invited;
- inviting value added networks to take part in the Intrastat pro-

gramme and to offer special rates to users of the IDEP/CN8 program.

Since 1997, one of the objectives of the State Agency, to which the Customs Department belongs, has been to get Intrastat declarations sent via EDI (Electronic Data Interchange), and by the end of 1998 each of the provincial Intrastat offices (centres for collecting Intrastat declarations)

is expected to have achieved a 3% rise (since the start of the year) in the number of declarations sent on diskette or via telecommunications.

If they do not succeed, they will be deemed not to have achieved their objective and this will reduce the amounts which the Agency has fixed for the productivity bonuses which count as part of the salaries of Agency officials.

## THE DISTRIBUTION OF IDEP/CN8 IN FRANCE

Direction Générale des Douanes et Droits Indirects,  
Bureau des statistiques et des études économiques, France  
Antoine Egéa

*IDEP/CN8 has been available in France since September 1994, when the software was adjusted to take account of the fiscal aspect of the declaration on the trading of goods. This adjustment simply involved adding the VAT number of clients in the declaration of dispatch and making certain information obligatory or optional depending on the statistical procedure and tax system.*

### 3,000 USERS IN MARCH 1998

In March, 1998, 3,000 enterprises used IDEP/CN8 to draw up their declaration on the trading of goods and 600 of them used the telecommunications module included in the package.

Declarations using IDEP/CN8 accounted for 24% of total electronic statistical declarations for arrivals and 15% for dispatches.

### AN ORIGINAL DISTRIBUTION METHOD

IDEP/CN8 is distributed by commercial companies with which the Customs Authority has concluded a contract for its supply.

Under the terms of this contract, the Customs Authority agrees to provide the dis-

tributors with all new versions developed by Eurostat, which for its part is responsible for upgrading and correcting the software.

In turn, the fifty current distributors agree to guarantee the supply of the software, with documentation and annual updates and also to assist users during a period of one year.

While the product itself is free, companies are charged for any updates and assistance provided. The average cost of assistance is about FF 1,500.

The distribution companies may also propose additional optional services to IDEP users such as: product installation, training, configuration and interface with the business information system.

This form of distribution has definite advantages. For instance, the commercial companies distributing software already have a presence in the business world through their own products. These products often have a link to the declaration on the trading of goods, for example accounting or factoring software upstream of IDEP, telecommunications solutions downstream. They are also able to pro-

pose optimum integration of IDEP into an enterprise's data processing system by taking account of certain existing architecture features (local networks, interface with large-scale systems, etc.).

However, there are disadvantages. The first is the great difference in the quality of services provided by the companies. Some are only half-heartedly committed to the distribution of IDEP and have not mastered the product adequately. When distributors do not assist the enterprises correctly, the Customs Authority is obliged to compensate for their deficiencies.

Another disadvantage is the dissuasive effect of any charge for IDEP, even a low one, in the case of enterprises which consider that compiling the declaration on the trading of goods already constitutes a cost.

With the advent of the version for 1999, solutions will have to be found to enable the product to be distributed directly and free of charge, while continuing to cooperate closely with the commercial companies, which could continue to provide a first level of assistance.

### THE HELP DESK

In the event of problems IDEP users must first contact the distribution

companies whose main role is to provide initial telephone assistance.

When the problem cannot be resolved at this level, the distribution companies transmit a report on it to the unit of the National External Trade Statistics Directorate (D.N.S.C.E.) in Toulouse which is responsible for centralising problem-solving by providing second level assistance. This is the same service which is responsible for distributing software to distribution companies and which handles mailshots.

Unresolved problems are transmitted to the statistical office of the Directorate General which analyses them, tries to resolve them in its turn and transmits them to EUROSTAT as a last resort. From 1999, with the distribution of two versions of IDEP functioning under multiple environments, the help desk will need to be provided with additional personnel and resources (Windows NT).

vides assistance and information to external trade operators.

All these bodies work in close co-operation with the statistical office of the Directorate General for Customs and organise national and regional events at regular intervals.

In addition to the widespread distribution of the leaflet on IDEP/CN8 in early June 1998, the Customs Authority organised mailshots to more than 25,000 enterprises which transmitted declarations of more than 10 lines on paper or by electronic medium and which were not yet using IDEP.

The prospect of a new Windows version on the 1<sup>st</sup> of January, 1999 was promoted, which will be euro and year 2000 compliant, targeting amongst others, those parties responsible for the declaration who transmitted data by electronic medium, but who did not wish to invest in the programme maintenance.

With regard to equipment, more than 28% used local networks and only 33% were equipped with modems, while 17% enjoyed Internet access.

More than 93% of users were satisfied with the services provided by the distributors, but there were negative assessments on some of them. More than 90% considered the product itself satisfactory or very satisfactory for most functionalities; however, 16% of respondents were dissatisfied with the printing of the declarations and 17% were dissatisfied with the implementation of the telecommunications module.

Regarding telephone assistance, 56% of users called their distributor between 1 and 4 times in the first year. When the questionnaire results were equated to all IDEP users, the number of actual calls registered in 1997 was close to 7,000.

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## PROMOTION

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The software is promoted by the distributors themselves, but also by information networks operating at national and local level. These include:

- the customs collection centres which have the advantage of being in direct contact with the enterprises;
- the customs advisory units of the regional Customs Directorates;
- the Chambers of Commerce and Industry;
- professional associations;
- auditors' associations;
- EDIFRANCE;
- SIMPROFRANCE, the body responsible for simplifying administrative procedures;
- ODASCE, the association which pro-

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## THE RESULTS OF THE QUESTIONNAIRE ON IDEP

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In June 1997 a questionnaire was distributed to users to determine their opinion regarding the software and services provided by distributors.

However, this questionnaire, to which 828 users replied, was used primarily to obtain a clearer picture of the profile of enterprises using IDEP.

Thus, we were able to determine that 9% of users were third party declarants and that in 73% of cases the accounts department was responsible for making the declaration on the trading of goods. More than 35% used imported data to compile their declaration.

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## OUTLOOK

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The availability of new versions of IDEP (DOS and WINDOWS) which take account of the euro and the year 2000 will provide the opportunity to introduce new forms of distribution, user backup and product promotion, in particular by taking advantage of the possibilities provided by the Internet.

In the framework of the DSIS (Distributed Statistical Information System) it is planned to manage IDEP/CN8 via an Internet interest group in which all the partners involved in disseminating IDEP will be involved: Eurostat, Statistical offices, D.N.S.C.E., collection centres, distributors and users.

The different versions of IDEP/CN8 and its documentation could thus be downloaded and the Internet site would be part of the medium.

For such an arrangement the current system will need to evolve and the commercial companies could no longer enjoy exclusive distribution

rights. It also means setting up a proper assistance and backup structure which is capable of managing the site.

In conclusion, it can be said that the current dissemination of IDEP/CN8 is inadequate given the quality of the product

and the level of satisfaction of the enterprises using it.

The development of product distribution methods, the use of Internet technologies and adequate assistance measures will make it possible to broaden considerably the dissemination of IDEP/CN8.

## **IDEP/CN8 AND IRIS IN AN INTERNATIONAL ENTERPRISE. AMERSHAM PHARMACIA BIOTECH.**

*Geert De Smet, Manager Credit Control and Account Receivables,  
Amersham Pharmacia Biotech, Europe GmbH, D-79111 Freiburg, Germany.*

**A**mersham Pharmacia Biotech provides scientific services and tools which help researchers discover and produce new drugs and therapies faster and more cost effectively. The company's systems are used to sequence DNA, uncover the function of genes and proteins, separate biomolecules and screen potential drugs. Our customers are international pharmaceutical, genetic and biotech companies including large research centres. The customers can be broken down into three main categories as follows:

1. Universities, National Research Institutes and Hospitals;
2. Industry;
3. Small Laboratories.

Amersham Pharmacia Biotech is a joint venture between two leading international healthcare specialists – Nycomed Amersham plc and Phar-

maciacia & UpJohn Inc. In June 1997, they merged their respective life science businesses – Amersham Life Sciences and Pharmacia Biotech, to create a world leading supplier of biotechnology products to those involved in medical science.

The company is structured around two business streams: drug discovery; and separations. Its goal is to be the leading supplier of innovative systems that help life scientists and biotechnology and pharmaceutical companies discover, develop and produce health enhancing products cost effectively with greater speed, convenience and safety.

Amersham Pharmacia Biotech has a world wide staff of 3,600. One of our main areas of interest is Research and Development, in 1997 spending in this area exceeded US\$ 60 million. The total sales for 1997 was US\$ 700.7 mil-

lion. The sales breakdown by region is as follows: Europe 39%; North America 35%; Japan 17% and Other 8%. In 1997, the company applied for 30 new patents to protect new technology.

In 1995, it was decided to centralise the reporting of Intrastat data in the European headquarters in Freiburg, Germany. Currently Amersham Pharmacia Biotech report Intrastat data directly from Freiburg for 12 Member States of the European Union: Spain; Italy; Denmark; Finland; Sweden; Belgium; France; and Austria using the IDEP/CN8 software. Whereas, the Intrastat declarations for Germany and the Netherlands are reported using the IRIS software. The Intrastat data requirements for the United Kingdom and Portugal are currently completed manually.

The systems operates as follows, all company data is keyed in to the main

database in Uppsala, Sweden. When the data is required for Intrastat reporting purposes a download is made from the database using J. D. Edwards<sup>(1)</sup> software. The selected data is picked out of different data files and special tables and consolidated in a DIF-file<sup>(2)</sup>, which is then transferred to an Excel-file. This data file contains all the information needed to make the Intrastat declarations. For each Member State a separate Intrastat file is created. Depending on the national requirements of the authorities we take out the non-applicable data. For some countries, like Belgium and Denmark less data elements are required, if compared for instance with France or Spain.

When the Member State Intrastat files are generated, we check the total values of the file with the values reported in the VAT declaration. In case of differences in the figures, we have to check the Closed Order file or the VAT details of the VAT declarations.

All the required versions of IDEP/CN8 and IRIS are installed on a PC in Freiburg. The particular Member

State Intrastat file is then imported into the relevant version of the Intrastat software, be it IDEP/CN8 or IRIS. The output files are then generated by these software packages and are then sent to the Competent National Administrations (CNA's).

The volume of Intrastat return lines differ in each of the 12 Member States, for example, in Germany approximately 500 declaration lines (equivalent to 10,000 lines before aggregation) are sent to the CNA each month. In Denmark the figure is approximately 170 declaration lines (after aggregation) per month which is sent to the CNA.

The time needed for the Intrastat reporting for all 12 Member States is a maximum of 3 days per month.

The costs involved in setting up the Intrastat system were relatively cheap in that the IDEP/CN8 and IRIS software were already available on the market, which meant that expensive software solutions did not have to be purchased. The other costs involved were in setting up the routines to extract the Intrastat data from

their main database in Sweden. This interface was set up in a matter of days with the help of a consultant from our business software supplier.

The existing set up for Intrastat reporting is very interesting, because we save between 2 to 3 days per country, per month compared to manually preparing declarations for the CNA's.

Other savings also resulted from centralising the reporting of the Intrastat declarations in Freiburg, because prior to this a Third Party Declarant was responsible for making Intrastat declarations to each of the CNA's.

In comparing the IDEP/CN8 and IRIS software, IDEP/CN8 could be improved in relation to the Import function. For example, in IRIS a lot of default values can be entered prior to importing data, this reduces the number of data elements to be imported, which in turn can lead to a reduction in the number of errors on the data being imported. If possible, the IDEP/CN8 software should be adapted similarly.

<sup>(1)</sup> J. D. Edwards is a software supplier developing enterprise-wide business applications for the IBM AS/400 and other client server platforms.

<sup>(2)</sup> DIF: Data Interchange Format.



## EDICOM NEWS

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### EDICOM TASK FORCE

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The EDICOM Task Force met on 26 and 27 October 1998 in Luxembourg. All 15 member states participated in the meeting. The main topics of the first day were the follow-up of the current projects and the preparation of the action plans for 1999.

In 1998, Eurostat carried out three technical EDICOM studies on the co-operation with software suppliers, on future telecommunication strategies relating to Intrastat, and on feedback to Intrastat information providers. The study findings will be used to direct EDICOM actions in the coming years.

Three focal points for the future of EDICOM were proposed:

- off-line electronic forms (IDEP/CN8 and CBS-IRIS);
- on-line electronic forms (Internet forms, currently being implemented in some member states);
- co-operation with software suppliers who should develop Intrastat solutions.

It was also proposed to set up three information networks:

- for enterprises: an Intrastat information network on Intrastat declaration for all member states;
- for software suppliers: a network providing the information needed to develop Intrastat software;
- for administrations: a network of reference projects carried out in the

individual member states; experiences of one member state could be of interest to others and should be shared.

The second day was dedicated to IDEP/CN8.

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### IDEP/CN8 DOS VERSION

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The DOS version of IDEP/CN8 is currently used by more than 30,000 enterprises in 12 member states (all except Germany, the Netherlands and the United Kingdom). Furthermore, a large number of stand-alone versions of the CN8 package are distributed in Italy and the United Kingdom.

Version 7, the version for 1999, was delivered to the competent national administrations on 1 October 1998. This version is Euro and Year 2000 compliant. The combined nomenclature was delivered in all national languages in October and November 1998.

The national versions of IDEP/CN8 will be available to the enterprises as soon as they are prepared by the competent national administrations.

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### WINDOWS VERSION OF IDEP/CN8

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In 1998, Eurostat commissioned the development of a Windows version of

IDEP/CN8. This Windows version will be finalised and introduced during the first half of 1999. It will have exactly the same functionality as the existing DOS version, but will provide a more up-to-date technical basis for future development of the program. It will be possible to upgrade from the DOS to the Windows version.

New features include the possibility to install more than one language in one package (e.g. French and German in Luxembourg) and to install several national rule sets in one package (this may be of interest to enterprises working on an international level).

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### EDICOM EVALUATION

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The EDICOM programme will run out by the end of 1999. An experts group prepared an evaluation of the programme, and presented recommendations for a possible continuation.

There is a wide agreement between member states that the EDICOM programme is largely responsible for the substantial increase in the use of EDI for the collection of trade statistics data, and for the fact that Intrastat is the most automated of statistical domains within Europe. The continuation of the programme is regarded as essential, both to maintain this position and to make further advances.

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### NEW EDIFACT MIGS

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Three EDIFACT messages are used for foreign trade declarations: CUSDEC/INSTAT for Intrastat declaration, CUSDEC/EXSTAT for the declaration of trade with non-member states, and CUSRES/INSRES as response message to the 2 declaration messages.

In 1998, new versions of these messages have been adopted, being Euro

and Year 2000 compliant. The corresponding Message Implementation Guidelines (MIGs) have been re-designed. For copies of the new MIGs (in PDF format) please contact Mr. Uwe Kunzler (uwe.kunzler@eurostat.cec.be).

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### NEW PUBLICATION

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The booklet "IDEP/CN8 - A European Software Package" has been

published by Eurostat. It describes Intrastat, EDICOM and in more detail IDEP/CN8. Reports on the experience of competent national administrations and businesses with IDEP/CN8 complete the picture.

The publication is available in German, English and French. Please contact Mr. Uwe Kunzler for copies.

(uwe.kunzler@eurostat.cec.be)



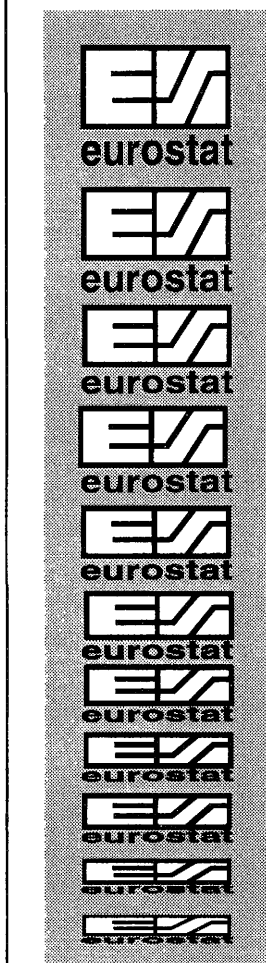
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