



European Patent Office

APPLICANT PANEL SURVEY 2002

OF INTENTIONS FOR FILING PATENT APPLICATIONS AT THE EUROPEAN PATENT OFFICE AND OTHER OFFICES

Controlling Office
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0 Summary

0.1 Introduction

In the Year 2002, the EPO carried out its seventh annual exercise to question groups of Applicants on their intentions for future numbers of Patent Filings. As in the previous survey, a sample size of about 2 000 Applicants was used. The design of the survey and the analysis of results were done by the EPO, while the interviews and data recording were carried out by the Consultant Roland Berger Market Research, Munich. The experience gained in the previous year by working with the same Consultant was profitably used in the current exercise.

0.2 The Year 2002 Survey

Applicants were selected in two groups: a Biggest Group (from a list of 456 of the biggest Applicants at the EPO in Year 2001), and a Random Group (from a random sample of 2 076 of all Applicants to the EPO in Year 2001). The total number of Applicants involved was 2 124, some of which belonged to both the Biggest and the Random Group. The survey covered Applicants making about 40% of the Applications at the EPO ([Annex I](#)). In the first stage, contact details could be established with 1 801 of these Applicants. A Questionnaire was sent out in June 2002, with interviews starting in July 2002 and terminating in early September 2002. The Questionnaire contained a full matrix of questions on Patent Filings broken down by *First Filings* and *Subsequent Filings*, not only at the EPO but also in the other main world wide Patent Systems. Questions were also included to elicit information on R&D expenditures and *First Patent Filings* by *Technical Units* (roughly equivalent to Industrial Areas). The total useful response rate was 35% of the pre-identified Applicants (630 out of 1 801).

0.3 Analysis of results on Patent Filings

The survey involved an approach of building up forecasts from primordial Filing types (*Euro-direct / Euro-PCT-IP*, *First Filings / Subsequent Filings*) and Blocs of residence of the Applicants (EPC area, Japan, United States, Other countries). An analysis was made of the specific responses on future expectations for Filings at the EPO. For the Biggest Group, [Table III](#) shows that Growth Rates in *Total Filings*, compared to Year 2001, can be estimated as about 1% in 2002, 12% in 2003 and 19% in 2004. For the Random Group, [Table V](#) shows that, after logarithmic transformation of the data and a correction for possible non-response biases, Growth Rates in *Total Filings* compared to Year 2001 can be estimated as about -1% in 2002, 10% in 2003 and 17% in 2004. The 95% confidence limits for these Growth Rates encompass the Growth Rates predicted from the Biggest Group. Both methods suggest a continuation of the recent trend towards an increased use of the PCT system.

An alternative approach was taken to analyse the data from the Random Group by

the approach of building up forecasts from primordial Filing types and technical areas as defined by 14 *Joint Clusters* used for organisational planning purposes at the EPO ([Table VI](#)). Growth Rate estimates were derived per *Joint Cluster*, and also on an overall basis by combining results per *Joint Cluster*. The overall forecasts were not quite so accurate as those obtained in the traditional approach that takes into account the Blocs of residence of the Applicants.

Analysis could also be made of the matrix of questions on Patent Filings intentions in major world Patent Systems ([Annex II](#)). For many of the Systems studied, there were drops in Filings expected in Year 2002 but the prospect of growth in Filings from Year 2003 onwards. It was verified that most PCT Applications designate EPO, Germany, Japan and United States. World wide *First Filings* will increase in Years 2003 and 2004, which suggests a further increase in *Subsequent Filings* at the EPO from Year 2004 to Year 2005.

A further descriptive analysis was made of the data generated on R&D expenditures and *First Patent Filings* by *Technical Units* ([Fig. 6](#) and [7](#)). The amount of investment equivalent to a single *First Filing* was variable - some *Technical Units* attracted higher levels of investment but lower levels were also present in these *Technical Units*. The Average (median) Total R&D Budget per respondent for Year 2002 was EUR 5 370 000, down from EUR 6 830 000 in Year 2001. The overall Average (median) amount of R&D expenditure that was equivalent to a single *First Patent Filing* was about EUR 418 000 in Year 2001, with about EUR 108 000 (26%) spent in the pre-patenting phase.

0.4 Forecasts of future Filings at the EPO.

It is suggested that the results from the Random Group give appropriate forecasts for future Filings at the EPO ([Table V](#) and [Fig. 3](#)), as long as uncertainty in the forecasts expressed by the 95% confidence limits is taken into consideration. A high level summary of [Table V](#) appears in [Table VIII](#).

The degree of agreement between forecasted and actual Total Filings in Year 2002 by this method is not so good as for some of the other methods, but it is felt that the incorporation of a correction for non-response bias can give greater confidence in the forecasts for Years 2003 and 2004. Nevertheless the forecasts depend on sentiments remaining unchanged within the Applicant population since the time that the survey was made.

I Introduction

In the Year 2002, the Office carried out its seventh annual exercise to question groups of Applicants on their intentions for future numbers of Patent Filings. The survey was carried out by telephone interviews with pre-established contact persons. The interviews and data recording were done by the Consultant Roland Berger Market Research, with whom the EPO could benefit from the joint experience that was previously gained in the 2001 survey. A bigger sample size was used in both Year 2001 and 2002 surveys, and the design of the Year 2002 survey was similar to that of the Year 2001 survey.

The main aim of the survey was to calculate quantitative forecasts of Patent Filings at the EPO and other Offices, by various Filing Routes and Blocs of residence of the Applicants. A subsidiary aim was to explore various technological areas, both to make more detailed forecasts and to explore the relationship between R&D and patenting. During the analysis stage, an attempt has been made to try to do this on the basis of fourteen *Joint Clusters* that have been developed at the EPO for purposes of classification of workload, and also on the basis of a question included regarding *Technical Units* of the International Patent Classification (IPC, 1994).

II The Year 2002 Survey

More than 2000 Applicants received Questionnaires regarding their expectations on Patent Filings for the coming three years, in this case Years 2002, 2003 and 2004.

Participating Applicants were selected, either for a Biggest Group from a list of 456 of the biggest Applicants at the EPO in Year 2001, or for a Random Group of 2 076 from all Applicants to the EPO in the same year. The Random Group was obtained from a simple random sample of Applications. This has the effect to over weight large Applicants in the sample, thus obtaining a large coverage of the population of Applications which gave an ability to make statistical inferences about the overall population. There was a large overlap, so that most of the Applicants in the Biggest Group also appeared in the Random Group. A copy of the survey Questionnaire can be seen in [Annex VII](#).

The Questionnaire was sent in either English, French or German, depending on the procedural language previously used in Applications made to the EPO by the Applicants. Questions asked about expected numbers of Filings in various Patent Systems for Calendar Years 2002 to 2004 (Questionnaire **Section B**). These questions were slightly simplified compared to the previous Questionnaire and encompassed "Patent Applications under the EPC (excluding PCT)" (*Euro-direct Filings*); "Patent Applications under the PCT" (*Overall PCT Filings*), "of which Designating EPO" (*Euro-PCT-IP Filings*) and designations of various major countries (Germany, Japan, United States); and finally "National Applications (excluding PCT)" (*National Filings*) at major Patent Offices (France, Germany, Japan, United Kingdom, United States). The total number of world wide *First*

Filings for Patents was requested. Furthermore a breakdown was requested of all the above in terms of both *First* and *Subsequent Filings*.

A question was included on R&D usage and patenting intentions broken down by various technological areas, based on 29 of the 31 main *Technical Units* of the International Patent Classification (Questionnaire **Section C**).

A comments section was also included (Questionnaire **Section D**).

The main question (in **Section B**) asked for the numbers of Filings already made in the Base Year (Year 2001) together with estimates for future Filings for the Years 2002, 2003 and 2004. An option was provided to give information in the form of Growth Rates rather than actual numbers. Growth Rates were requested on a year by year basis, because previous experience showed that the interviewees had difficulties when calculating Growth Rates from a single Base Year. However, for the results in this report, the convention is adopted that Growth Rates should be with respect to a Base Year (in this case Year 2001).

Before contacting the main body of identified Applicants, a small pre-test was carried out on five Applicants in Germany to ensure that the Questionnaire was fully understood. The pre-test results were incorporated into the main set of survey results without differentiation in the analysis.

After the pre-tests, screening interviews were carried out by telephone in an appropriate language (English, French, German or Japanese) with all the remaining identified Applicants. In each case, a contact person was found to whom the Questionnaire was sent¹. The telephone interviews took place from July 2002 to early September 2002. However substantive telephone interviews were only required for about 3% of the cases, because most participants preferred to fill in the Questionnaire themselves and return it to the Consultant.

III Response Rates

A full report of the execution of the survey appears in the *Methodenbericht* (*Methodology Report*), from which the following information has been extracted: Lists were provided by the EPO of a total of 2 124 selected Applicants (2 076 in the Random Group, 456 in the Biggest Group, with 408 overlaps). The Consultant strove to identify contact names, addresses and telephone numbers, and 1 801 Addresses were confirmed (1 714 in the Random Group, 390 in the Biggest Group, with 303 overlaps). From these, contact was established for survey purposes with 1 506 Applicants (1 446 in the Random Group, 315 in the Biggest Group, with 255 overlaps).

Table I shows the total numbers of Applicants that were picked for the survey, the

¹

A package was sent containing the Questionnaire together with a letter of recommendation from the EPO and a letter of explanation from the Consultant.

numbers dropping out for various reasons, and the final numbers of answers received.

Table I: Sample and answers received

Item	Number	Percentage
Total sample	2 124	100.0
Addresses not found	323	15.2
Addresses confirmed	1 801	84.8
Addresses confirmed	1 801	100.0
Drop outs (1)	295	16.4
Contact established with Applicants	1 506	83.6
Drop outs (2)	876	48.6
Applicants answered	630	35.0

- (1) Company could not be reached; Company was identical to another already identified in the sample; "No Patents filed"; Mailbox system which blocked further contact possibilities; Contact person not available; "No data available"; Company no longer exists; Language problems.
- (2) General refusal to participate; Questionnaire not returned though promised; Contact person not available; "No time available for dealing with the matter"; "Not participating in surveys on principle"; "No interest"; "Data are secret"; "Questionnaire has been forwarded to somebody else"; "Too much effort requested to fill-in the Questionnaire".

Table II shows the same information as given in **Table I**, but broken down by the Blocs of residence of the Applicants and the sampled Groups. The table also shows the distribution of Applicants in the population in Year 2001. Compared to the previous survey, the response rate for the Biggest Group has dropped significantly, while the response rate for the Random Group has gone up slightly. The impact on the overall response rate (35%) is fairly neutral, with a small drop of 0.7% compared to the year before. **Annex I**, which is the first part of the analysis carried out by the EPO, provides an alternative breakdown of the samples, showing the coverage proportions of the underlying populations both in terms of Applicants and Applications.

The Consultant made a plausibility check of the received answers (**Annex VI**). In cases where possible difficulties were identified, a follow-up interview was made to verify the responses.

Table II: Population Sizes, Sample Sizes and Response Rates in Terms of Patent Applicants to the EPO

	Population		Sample (All)					
	Applicants	%	Applicants selected	%	Valid addresses	Applicants established	Answers	Response rate %
Bloc of residence								
EPC	16 663	55,9	1 069	50,3	919	769	365	39,7
JP	2 257	7,6	285	13,4	244	208	115	47,1
US	7 732	26,0	613	28,9	529	437	127	24,0
Others	3 130	10,5	157	7,4	109	92	23	21,1
All	29 782	100,0	2 124	100,0	1 801	1 506	630	35,0

	Sample (Biggest Group)						Sample (Random Group)					
	Applicants selected	%	Valid addresses	Applicants established	Answers	Response rate %	Applicants selected	%	Valid addresses	Applicants established	Answers	Response rate %
Bloc of residence												
EPC	185	40,6	166	127	78	47,0	1 044	50,3	878	738	350	39,9
JP	115	25,2	103	91	60	58,3	275	13,2	224	192	102	45,5
US	146	32,0	118	95	30	25,4	601	28,9	505	424	124	24,6
Others	10	2,2	3	2	1	33,3	156	7,5	107	92	23	21,5
All	456	100,0	390	315	169	43,3	2 076	100,0	1 714	1 446	599	34,9

Sample counts from the *Methodenbericht*

IV Methodology

The survey was executed in the same way as in Year 2001. Please refer to the previous report (*Applicant Panel Survey 2001: Section IV.1, Annex III, Annex IV*) for a description of the basic methodology. This describes the use of a *Composite Index* to measure Patent Growth Rates in the Biggest Group, and a *Q-Index* to measure Patent Growth Rates in the Random Group². These calculations were performed on the data generated by **Section B** of the Questionnaire.

It was apparent from the previous survey that the direct application of the *Q-Index* method led to overoptimistic growth forecasts. It is now realised that this problem occurs because the individual Growth Indices have an asymmetric distribution, with an unlimited upper bound but bounded below at zero. In order to compensate for this, a natural logarithmic transformation was applied to the data before calculating the *Q-Index*. [Annex IV](#) shows the way that this was used and discusses how the resulting forecasts and approximate 95% confidence intervals were calculated.

Another problem with these kinds of forecasts is the possibility of bias in the results due to non-response. Nearly 60% of the Applicants with whom contact could be established did not respond, and it is possible that a propensity not to respond may be correlated with a pessimistic outlook towards future Filings. Against this, it can be argued that there are always new Applicants appearing each year who form a non-surveyed addition to the population that can act as a source of extra Applications beyond the forecasts from the survey.

It is difficult to make an accurate correction for the effect of non-responses that are self-evidently unobserved. An attempt has been made by isolating a subset of the responders that might be presumed to be similar to the non-responders, and assuming that their intentions can be projected across non-responding part of the sample. The subset that was selected was that of the responders who gave data for Year 2002 Filings expectations only, with no estimates for Years 2003 or 2004. It was indeed found that the intentions towards Filings in Year 2002 were somewhat less optimistic for the subset than for the overall sample. [Annex V](#) details the mechanism of this analysis, and explains how the results from the subset were used to correct the overall Filings forecasts for the Random Group.

In the survey, the principle questions of interest for the EPO concern forecasts of future *Euro-direct Filings*, *Euro-PCT-IP Filings*, and *Total Filings* (*Euro-direct + Euro-PCT-IP*). In **Section V**, an analysis is presented of forecasted Filings at the EPO from these response types. As in the previous survey, this has been done by calculating Growth Indices for each Bloc of residence of the Applicants, and then combining the results to make overall forecasts. But at the EPO it has recently been decided that forecasts of Filings are desirable, not just for Total Filings, but also for Filings broken down by fourteen technical work units known as *Joint Clusters*. The Random Group constitutes a simple random sample across

² The analysis for this survey was facilitated by a new set of prewritten Visual Basic Routines running under Excel (Vesin, 2002).

Applications, and so the responses can be broken down by *Joint Clusters* as an alternative to Blocs of residence. It was decided not to split the responses by both factors simultaneously ($4 \times 14 = 56$ combinations), because there would not have been enough data in the subdivided groups.

Each responding Applicant was assigned to one *Joint Cluster*, on the basis of the IPC code of the Application by which that Applicant had been selected for inclusion in the sample. This is an approximation because some Applicants file for Patents under several different *Joint Clusters*.

Responses to the survey have also allowed Growth Indices to be calculated for intentions for Patent Filings by EPO clients using all the major world wide Patenting Systems (**Section VI**).

The responses from **Section C** of the Questionnaire involve a breakdown of First Patent Filings in Year 2001 by *Technical Units*, together with R&D Budget expenditures per Technical Unit, including an indication of the proportion of the R&D Budget spent in the pre-patent phase. An estimation of the R&D Budget expenditure for Year 2002 was also requested. It is intended that these responses should be accumulated over several years, in order to explore the relationship between R&D and subsequent patenting at the microeconomic level. This is the fifth year that such data have been obtained. Results are presented in **Section VII**.

Annex II gives a series of tables that show, for each question in **Section B** of the Questionnaire, the Growth Indices estimated from the members of the Random Group. Numbers of cases used for each comparison are given there together with standard errors of estimates. **Section V.1 Results 1** discusses the responses to questions **(a)** and **(c)** from **Section B**, which concern Patent Filings at the EPO. **Section V.2 Results 2** compares the responses to all questions **(a)** to **(l)** from **Section B**. **Section V.3 Results 3** discusses the results from **Section C** of the Questionnaire, concerning breakdowns of Patent Filings and R&D Budgets by *Technical Units*. The Questionnaire invited general comments in **Section D**, as well as specific comments after each of the other Sections. A selection of the comments is shown in **Annex III** (in German).

V Results 1: Forecasts for Patent Filings at the European Patent Office

V.1 Biggest Group

A group covering as far as possible the 456 Applicants who made at least 29 Applications (Euro-direct Filings + Euro-PCT-RP) in Year 2001. (169 respondents).

Since the Biggest Group is not a random sample, it is considered appropriate to use the *Composite Index (CI)* in this case, as explained in *Applicant Panel Survey 2001: Annex III*. The numerical values of the Indices obtained are shown in [Table III](#), with the resulting forecasts and actual numbers of Filings where available. Unfortunately no breakdowns of *Euro-PCT-IP Filings* for Year 2002 are yet available into *First Filings* and *Subsequent Filings*. It should also be noted that the allocations of Actual *Euro-PCT-IP First Filings* for Year 2001 may include a few as-yet-undetermined cases that are in fact *Subsequent Filings*. [Fig. 1](#) shows a plot of the forecasts. No confidence limits are given for the estimates, because this is as far as possible a census of the intentions of the largest Applicants.

The overall forecast for *Total Filings* made for Year 2002 from this group seems quite good (162 374 forecast vs. 165 120 observed). However, there is a small under prediction for *Euro-PCT-IP Filings* and an over prediction for *Euro-direct Filings*. Therefore there is some imprecision in the estimated percentage of *Euro-PCT-IP Filings* among *Total Filings* in Year 2002 (65.3% predicted vs. 67.4% observed). The results per Bloc are more variable. There is only one observation from the Bloc "Others" and so the Growth Indices for this Bloc are not dependable. *Euro-PCT-IP Filings* have been under estimated for all other Blocs, particularly U.S.A. *Euro-direct Subsequent Filings* have been quite strongly over estimated for Japan.

This method predicts Total Filings of 162 374 in Year 2002, 180 737 in Year 2003, and 192 407 in Year 2004. The corresponding predictions from the Year 2001 survey were 166 120 in Year 2002 and 173 601 in Year 2003.

V.2 Random Group

A randomly sampled group of 2 076 Applicants to the EPO (Euro-direct Filings + Euro-PCT-RP) in Year 2001 (599 respondents).

With the responses from the Random Sample, it is appropriate to use the *Q-Index* method after logarithmic transformation of the data ([Annex IV](#)). Firstly an analysis was carried out without a non-response correction. The numerical values of the *Q-Indices* are shown with their standard errors in [Table IV](#)³. [Fig. 2](#) shows a plot of the forecasts. The resulting predicted Filings are given together with 95%

³ The reported values of the Q-Index have been transformed back to the arithmetic scale, but the standard errors apply to the logarithmic scale. However Annex IV argues that these standard errors are also approximately correct on the arithmetic scale.

Table III. Applicant Panel 2002: Forecasts of EPO filings. Biggest Group.

Composite Indices

Assumption: All forecasts of combined totals made by combining primordial terms.

			Year												
			2001		2001		2002	2002		2002	2003	2003		2004	2004
Filings Type	Filing route	Bloc of origin	Index	Actual "	Index	Predicted	Actual *	Index	Predicted	Index	Predicted	Index	Predicted	Index	Predicted
First	Euro-Direct	EPC	1	9.308	0,97031	9.032	10.465	1,0262	9.552	1,0439	9.716				
		Japan	1	244	1,07196	261,5583127	222	1,0868	265,191067	1,0918	266,4019851				
		USA	1	1.236	0,65635	811	1.150	0,8911	1.101	0,876	1.083				
		Others	1	470	2	940	542	2	940	2	940				
		Total		11.258		11.044	12.379		11.859		12.005				
	Euro-PCT-IP	EPC	1	2.165	1,15	2.490		1,462	3.165	1,557	3.371				
		Japan	1	1.008	1,19792	1.208		1,25	1.260	1,3021	1.313				
		USA	1	1.965	1,01629	1.997		1,0183	2.001	1,0412	2.046				
		Others	1	1460	1	1460		1	1460	1	1460				
		Total		6.598		7.154			7.886		8.189				
Subsequent	Euro-Direct	EPC	1	20.618	0,93636	19.306	19.326	0,9588	19.769	0,9931	20.476				
		Japan	1	13.921	1,03623	14.425	11.569	1,1273	15.693	1,1659	16.230				
		USA	1	9.411	1,03509	9.741	8.501	1,0828	10.191	1,188	11.180				
		Others	1	1.652	1,15108	1.902	2.029	1,295	2.139	1,4388	2.377				
		Total		45.602		45.374	41.425		47.792		50.263				
	Euro-PCT-IP	EPC	1	37.601	1,00861	37.925		0,9969	37.483	1,0424	39.197				
		Japan	1	9.436	1,03728	9.788		1,158	10.927	1,2221	11.532				
		USA	1	40.917	0,95037	38.886		0,987	40.385	1,1442	46.816				
		Others	1	9.762	1,25	12.203		2,5	24.405	2,5	24.405				
		Total		97.716		98.801			113.200		121.949				
All	Euro-Direct	EPC		29.926		28.338	29.791		29.322		30.192				
		Japan		14.165		14.687	11.791		15.958		16.497				
		USA		10.647		10.552	9.651		11.292		12.263				
		Others		2.122		2.842	2.571		3.079		3.317				
		Total		56.860		56.418	53.804		59.651		62.268				
	Euro-PCT-IP	EPC		39.766		40.414	42.986		40.648		42.568				
		Japan		10.444		10.995	11.946		12.187		12.844				
		USA		42.882		40.883	44.146		42.386		48.862				
		Others		11.222		13.663	12.238		25.865		25.865				
		Total		104.314		105.955	111.316		121.086		130.139				
	Total	EPC		69.692		68.752	72.777		69.970		72.760				
		Japan		24.609		25.682	23.737		28.145		29.341				
		USA		53.529		51.436	53.797		53.678		61.125				
		Others		13.344		16.504	14.809		28.944		29.182				
Grand Total			161.174		162.374	165.120		180.737		192.407					
% Growth from Year 2001				0%		0,74%	2,45%		12,14%		19,38%				
Implied % Euro-PCT-IP				64,72%		65,25%	67,42%		67,00%		67,64%				

" Estimates made in January 2003.

* Estimates made in March 2003.

Fig. 1. Applicant Panel 2002: Forecasts of EPO filings. Biggest Group. Composite indices

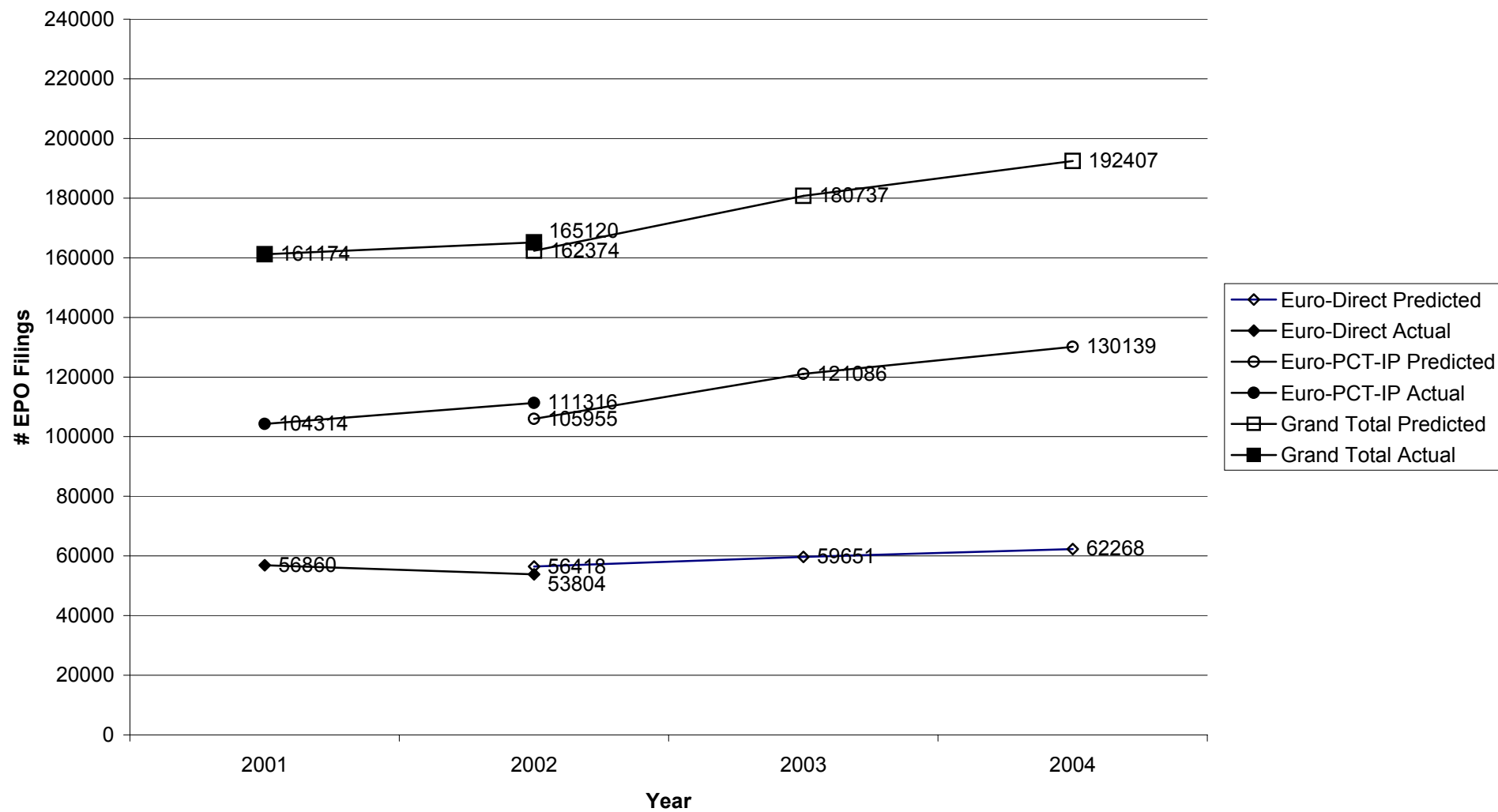


Table IV. Applicant Panel 2002: Forecasts of EPO filings. Random Group.**Q Indices**

Analysis using logarithmic transform of indices. Approximate confidence intervals

Assumption: All forecasts of combined totals made by combining primordial terms.

S.E. indicates Standard Error

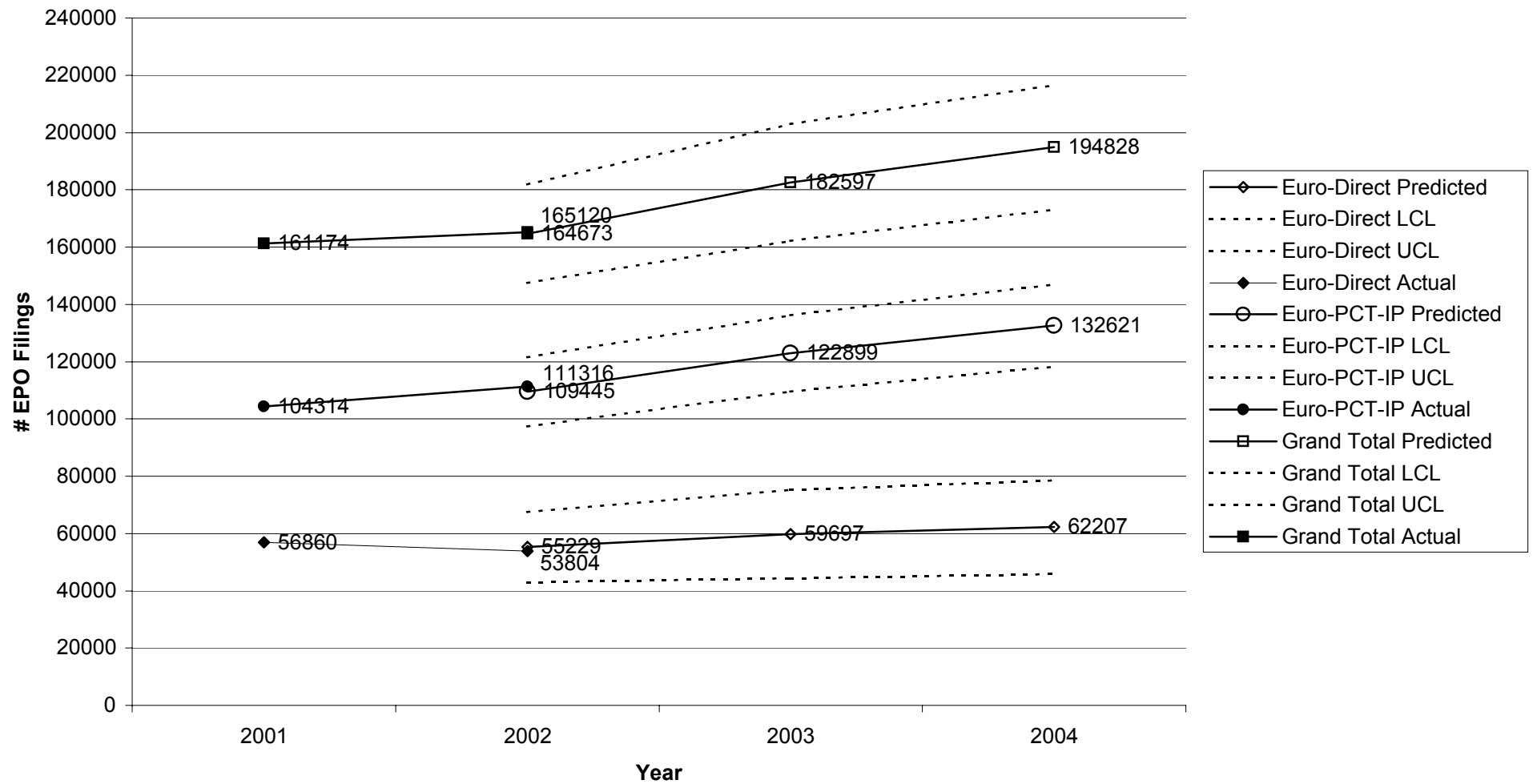
LCL / UCL indicates Lower / Upper 95% Confidence Limit

Filings Type			Year											
			2001		2002				2003			2004		
			Index	Actual "	Index		Predicted	Actual *	Index		Predicted	Index		Predicted
					Estimate	S.E.			Estimate	S.E.		Estimate	S.E.	
First	Euro-Direct	EPC	1	9.308	0,9964	0,0674	9 274	10.465	1,0850	0,0763	10 099	1,1248	0,0926	10 469
		Japan	1	244	1,2469	0,2772	304	222	1,3146	0,3153	321	1,3661	0,3592	333
		USA	1	1.236	0,8757	0,1328	1 082	1.150	1,0571	0,0552	1 307	1,0587	0,0590	1 309
		Others	1	470	1,4625	0,2536	687	542	1,5545	0,2236	731	1,6927	0,2354	796
		Total		11.258			11 348	12 379			12 457			12 907
		LCL (Total)					(9 981)				(10 963)			(11 115)
		UCL (Total)					(12 715)				(13 951)			(14 699)
	Euro-PCT-IP	EPC	1	2.165	0,8364	0,1376	1 811		0,9115	0,1599	1 973	0,9457	0,1692	2 047
		Japan	1	1.008	1,0408	0,0359	1 049		1,0433	0,0405	1 052	1,0509	0,0434	1 059
		USA	1	1.965	0,9423	0,0701	1 852		0,9226	0,1564	1 813	0,9282	0,1774	1 824
		Others	1	1460	1,3493	0,3895	1 970		2,0628	0,5436	3 012	2,3413	0,5465	3 418
		Total		6.598			6 682				7 850			8 349
		LCL (Total)					(5 262)				(5 925)			(6 368)
		UCL (Total)					(8 101)				(9 775)			(10 329)
Subsequent	Euro-Direct	EPC	1	20.618	0,9257	0,0484	19 085	19.326	1,0183	0,0668	20 995	1,0290	0,0501	21 216
		Japan	1	13.921	1,0234	0,0892	14 247	11.569	1,0711	0,1413	14 911	1,1075	0,1616	15 417
		USA	1	9.411	0,9300	0,1292	8 753	8.501	1,0094	0,1245	9 500	1,1096	0,1166	10 442
		Others	1	1.652	1,0871	0,2004	1 796	2 029	1,1104	0,4606	1 834	1,3465	0,5636	2 224
		Total		45.602			43 881	41 425			47 240			49 300
		LCL (Total)					(31 688)				(31 926)			(33 078)
		UCL (Total)					(56 074)				(62 555)			(65 522)
	Euro-PCT-IP	EPC	1	37.601	1,0335	0,0568	38 860		1,0811	0,0752	40 652	1,1445	0,0859	43 033
		Japan	1	9.436	1,1203	0,0938	10 571		1,2540	0,1086	11 833	1,3322	0,1188	12 571
		USA	1	40.917	0,9901	0,0733	40 513		1,0794	0,0839	44 164	1,2204	0,0750	49 934
		Others	1	9.762	1,3132	0,2380	12 819		1,8849	0,2204	18 401	1,9191	0,3109	18 735
		Total		97.716			102 763				115 050			124 272
		LCL (Total)					(90 819)				(101 821)			(110 100)
		UCL (Total)					(114 707)				(128 279)			(138 445)
All	Euro-Direct	EPC		29 926			28 359	29 791			31 094			31 686
		Japan		14 165			14 551	11 791			15 232			15 751
		USA		10 647			9 835	9 651			10 806			11 751
		Others		2 122			2 483	2 571			2 565			3 020
		Total		56 860			55 229	53 804			59 697			62 207
		LCL (Total)					(42 959)				(44 310)			(45 886)
		UCL (Total)					(67 498)				(75 084)			(78 528)
	Euro-PCT-IP	EPC		39 766			40 671	42 986			42 625			45 080
		Japan		10 444			11 620	11 946			12 885			13 630
		USA		42 882			42 365	44 146			45 977			51 758
		Others		11 222			14 789	12 238			21 412			22 153
		Total		104 314			109 445	111 316			122 899			132 621
		LCL (Total)					(97 417)				(109 531)			(118 311)
		UCL (Total)					(121 472)				(136 268)			(146 932)
	Total	EPC		69 692			69 030	72 777			73 720			76 766
		Japan		24 609			26 171	23 737			28 116			29 381
		USA		53 529			52 199	53 797			56 784			63 509
		Others		13 344			17 272	14 809			23 977			25 173
	Grand Total			161 174			164 673	165 120			182 597			194 828
	LCL (Grand Total)						(147 492)				(162 214)			(173 122)
	UCL (Grand Total)						(181 855)				(202 980)			(216 535)
	% Growth from Year 2001			0,0%			2,2%	2,4%			13,3%			20,9%
	Implied % Euro-PCT-IP			64,7%			66,5%	67,4%			67,3%			68,1%

* Estimates made in January 2003.

* Estimates made in March 2003.

Fig. 2. Applicant Panel 2002: Forecasts of EPO filings. Random Group. Q indices. Analysis of logarithmic transformations.



confidence limits for combined counts of *Total Filings* after accumulating over Blocs of residence.

Without logarithmic transformation, the overall forecast for *Total Filings* made for Year 2002 from this group is too optimistic (182 879 forecast vs. 165 120 observed, 95% confidence limits on forecast 167 274 to 198 484). After logarithmic transformation, the overall forecast for *Total Filings* made for Year 2002 is much closer to reality (164 673, approximate 95% confidence limits on forecast 147 492 to 181 855).

However, the agreement is not so good between forecasts and observed figures for *Euro-PCT-IP Filings*, which are underestimated particularly for The United States, and for *Euro-direct Filings*, which are overestimated particularly for *Subsequent Filings* from Japan. Therefore the estimated percentage of *Euro-PCT-IP Filings* among *Total Filings* in Year 2002 is somewhat too low (66.5% predicted vs. 67.4% observed).

This method predicts *Total Filings* of 182 597 in Year 2003 (approximate 95% confidence limits 162 214 and 202 980), and 194 828 in Year 2004 (approximate 95% confidence limits 173 122 and 216 535).

After applying a non-response correction, the numerical values of the Indices, together with predicted Filings and approximate 95% confidence limits, are shown in [Table V](#) and [Fig. 3](#). The method predicts a small drop in *Total Filings* to 159 548 in Year 2002 (approximate 95% confidence limits 135 651 and 183 445), 176 425 in Year 2003 (approximate 95% confidence limits 158 284 and 194 566), and 188 214 in Year 2004 (approximate 95% confidence limits 168 862 and 207 566). The predictions for the proportions of *Euro-PCT-IP Filings* are almost the same as were found above without a correction for non-responders.

V.3 Forecasts in the Random Group Broken Down by *Joint Clusters*.

With primordial breakdowns given with respect to *Joint Clusters* rather than Blocs of residence, the *Q-Index* method was again applied after transformation of the Indices to natural logarithms. [Table VI](#) shows the results of this exercise. [Fig. 4](#) shows a plot of the aggregate forecasts. No correction has been applied here for non-response.

The aggregate forecasts for *Total Filings* seem to be reasonable, but the associated approximate 95% confidence intervals are wider than those found with a breakdown by Blocs of residence. The method predicts an increase in *Total Filings* to 167 734 in Year 2002 (approximate 95% confidence limits 148 601 and 188 581), 188 641 in Year 2003 (approximate 95% confidence limits 166 711 and 213 574), and 198 483 in Year 2004 (approximate 95% confidence limits 175 946 and 222 291). The predictions for the proportions of PCT Filings are however rather too low, remaining under 67% even out to Year 2004.

Unfortunately there were several *Joint Clusters* with very few respondents, and

Table V. Applicant Panel 2002: Forecasts of EPO filings. Random Group. Q Indices. Combined analysis assuming that nonresponders behave like the respondents who gave information for 2002 only. Analysis using logarithmic transform of indices. Approximate confidence intervals

Assumption: All forecasts of combined totals made by combining primordial terms. No correction if no data on variability of non-responders.

S.E. indicates Standard Error

LCL / UCL indicates Lower / Upper 95% Confidence Limit

			Year											
			2001		2002			2003 All respondents			2004 All respondents			
Filings Type	Filing route	Bloc of origin	Index	Actual "	Index		Predicted	Actual *	Index		Predicted	Index		Predicted
					Estimate	S.E.			Estimate	S.E.		Estimate	S.E.	
First	Euro-Direct	EPC	1	9.308	0,9694	0,1208	9 023	10.465	1,0543	0,0633	9 814	1,0927	0,0774	10 171
		Japan	1	244	1,2469	0,0736	304	222	1,3146	0,2072	321	1,3661	0,2376	333
		USA	1	1.236	0,9412	0,1956	1 163	1.150	1,1379	0,0526	1 406	1,1408	0,0568	1 410
		Others	1	470	1,4625	0,0221	687	542	1,5545	0,1410	731	1,6927	0,1484	796
		Total		11.258			11 178	12 379			12 271			12 710
		LCL (Total)					(8 871)			(11 037)			(11 217)	
		UCL (Total)					(13 485)			(13 505)			(14 202)	
		Euro-PCT-IP	EPC	1	2.165	0,7790	0,2258	1 687		0,8481	0,1376	1 836	0,8795	0,1464
	Japan		1	1.008	0,9777	0,0730	985		0,9770	0,0310	985	0,9837	0,0333	992
	USA		1	1.965	0,8671	0,1845	1 704		0,8480	0,1243	1 666	0,8523	0,1421	1 675
	Others		1	1460	0,7891	0,0254	1 152		1,1964	0,2872	1 747	1,3579	0,2888	1 983
	Total			6.598			5 528				6 234			6 553
	LCL (Total)						(4 086)				(4 990)			(5 251)
	UCL (Total)						(6 970)				(7 478)			(7 855)
	Subsequent		EPC	1	20.618	0,7760	0,2058	16 000	19.326	0,8463	0,0449	17 448	0,8532	0,0339
		Japan	1	13.921	1,1624	0,1946	16 182	11.569	1,2234	0,1257	17 031	1,2662	0,1445	17 626
		USA	1	9.411	0,9483	0,2411	8 925	8.501	1,0296	0,1128	9 690	1,1320	0,1068	10 654
		Others	1	1.652	1,0871	0,0087	1 796	2 029	1,1104	0,4058	1 834	1,3465	0,4965	2 224
		Total		45.602			42 902	41 425			46 004			48 095
		LCL (Total)					(23 043)				(31 697)			(32 841)
UCL (Total)						(62 761)				(60 310)			(63 348)	
Euro-PCT-IP		EPC	1	37.601	0,9876	0,1118	37 135		1,0312	0,0597	38 775	1,0909	0,0688	41 020
	Japan	1	9.436	1,0642	0,0350	10 041		1,1879	0,0785	11 209	1,2605	0,0868	11 894	
	USA	1	40.917	0,9762	0,1049	39 945		1,0639	0,0731	43 531	1,2026	0,0661	49 209	
	Others	1	9.762	1,3132	0,0155	12 819		1,8849	0,1576	18 401	1,9191	0,2293	18 735	
	Total		97.716			99 940				111 916			120 857	
	LCL (Total)					(86 929)				(100 901)			(109 114)	
	UCL (Total)					(112 951)				(122 931)			(132 599)	
	All	Euro-Direct	EPC		29 926			25 023	29 791			27 262		
Japan				14 165			16 486	11 791			17 352			17 960
USA				10 647			10 088	9 651			11 096			12 064
Others				2 122			2 483	2 571			2 565			3 020
Total				56 860			54 080	53 804			58 275			60 804
LCL (Total)							(34 088)			(43 915)			(45 478)	
Euro-PCT-IP		EPC		39 766			38 821	42 986			40 611			42 924
		Japan		10 444			11 027	11 946			12 194			12 885
		USA		42 882			41 649	44 146			45 198			50 884
		Others		11 222			13 971	12 238			20 147			20 717
		Total		104 314			105 468	111 316			118 150			127 410
		LCL (Total)					(92 377)			(107 065)			(115 595)	
Total		EPC		69 692			63 844	72 777			67 873			70 685
		Japan		24 609			27 513	23 737			29 545			30 845
		USA		53 529			51 737	53 797			56 294			62 947
		Others		13 344			16 454	14 809			22 712			23 737
	Grand Total		161 174			159 548	165 120			176 425			188 214	
	LCL (Grand Total)					(135 651)			(158 284)			(168 862)		
UCL (Grand Total)					(183 445)			(194 566)			(207 566)			
% Growth from Year 2001			0,0%			-1,0%	2,4%			9,5%			16,8%	
Implied % Euro-PCT-IP			64,7%			66,1%	67,4%			67,0%			67,7%	

" Estimates made in January 2003.

* Estimates made in March 2003.

Fig. 3. Applicant Panel 2002: Forecasts of EPO filings. Random Group. Q indices. Analysis of logarithmic transformations, incorporating a non-response correction.

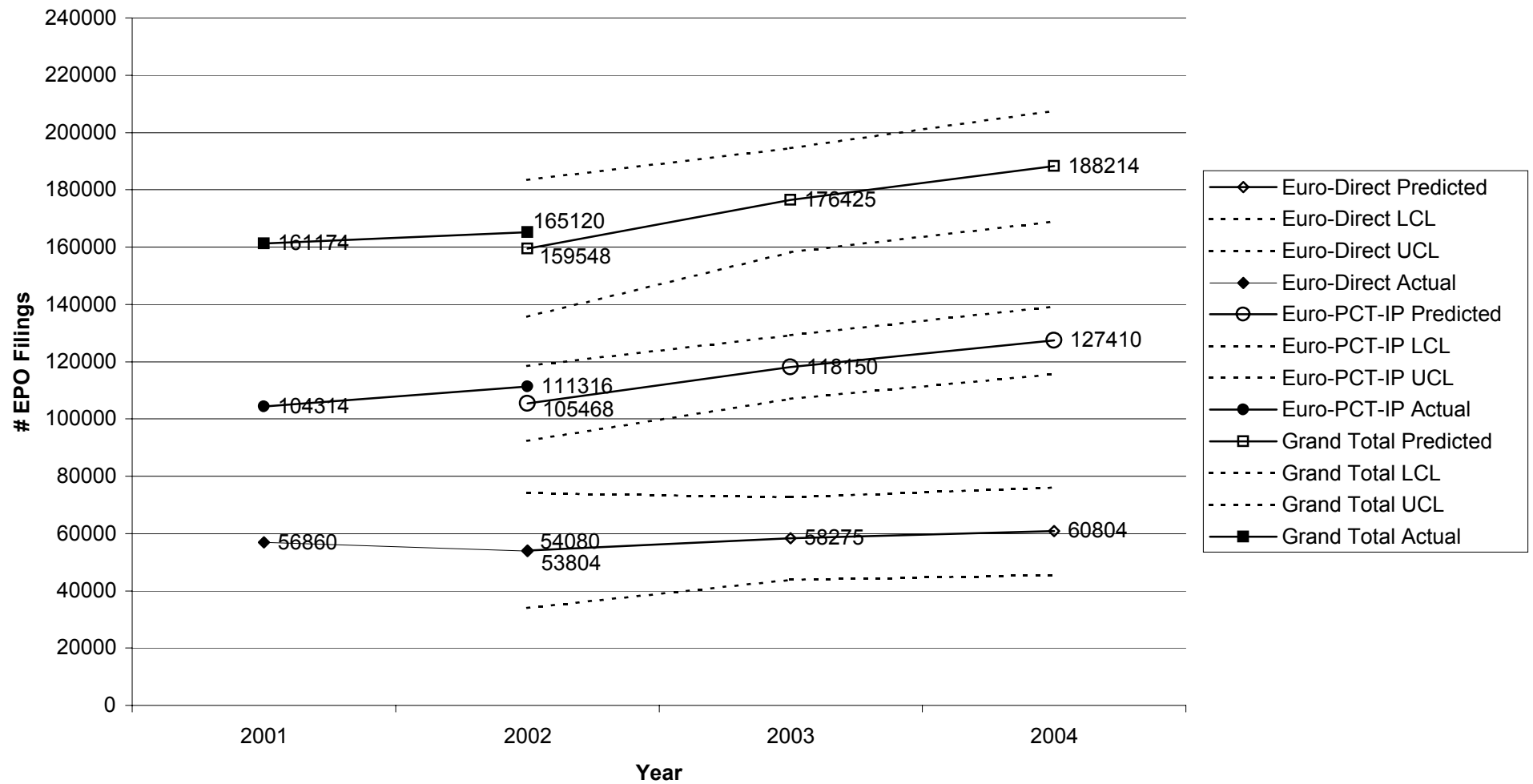


Table VI: Forecasts from specific questions on filings at the EPO. Random Group. Broken down by EPO Clusters (All 14 clusters, DG2 definition).

Q Indices

Analysis using logarithmic transform of indices. Approximate confidence intervals

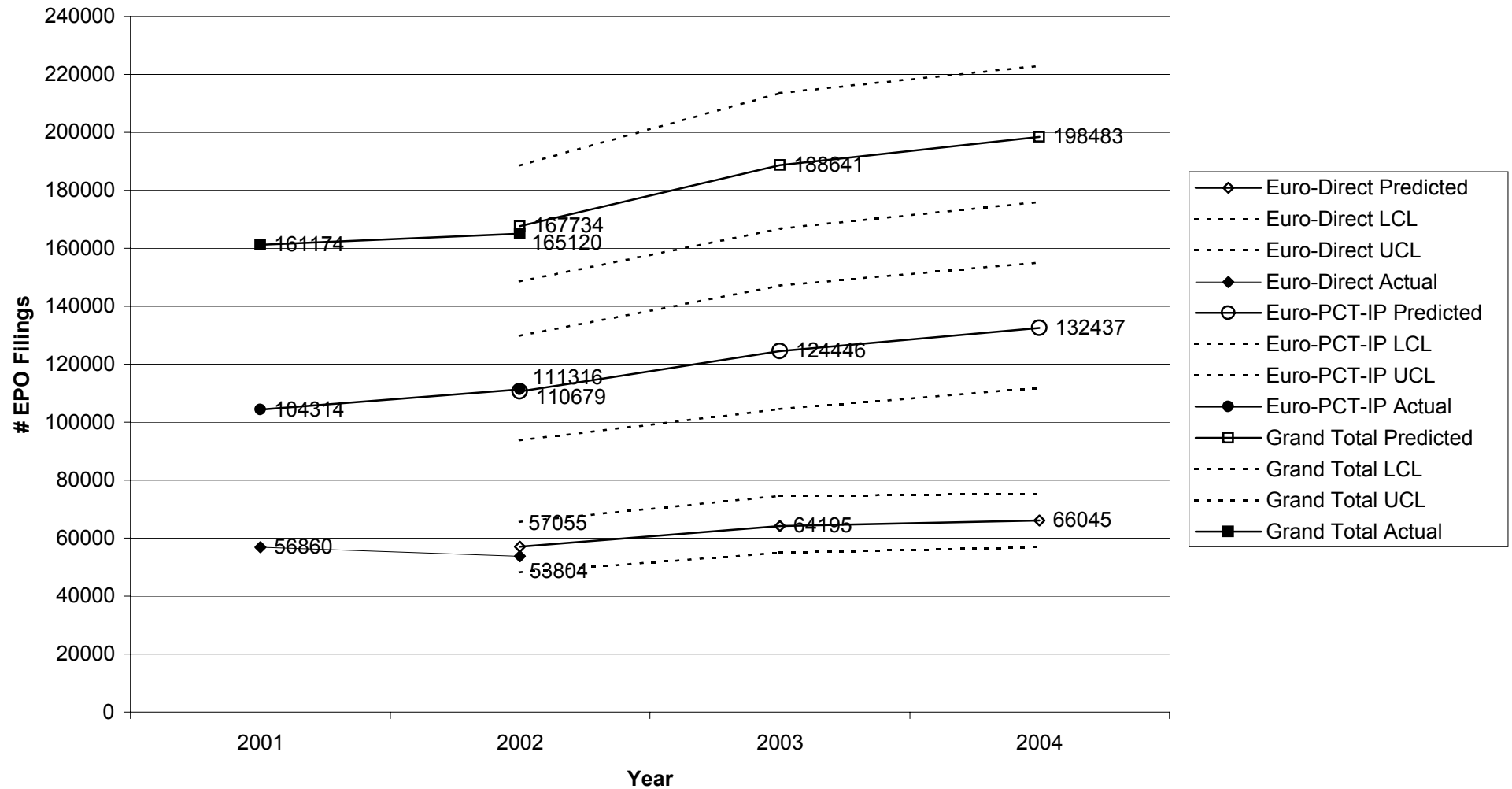
Assumption: All forecasts of combined totals made by combining primordial trends.

S.E. indicates Standard Error

LCL / UCL indicates Lower / Upper 95% Confidence Limit

				2001		2002		Year		2003		2004		
Filings Type	Filing route	Cluster	Index	Actual *	Estimate	S.E.	Predicted	Actual *	Estimate	S.E.	Predicted	Estimate	S.E.	Predicted
First	Euro-Direct	1. Electrical Machines	1	1 051	1,1818	0,1192	1 242		1,1690	0,1172	1 229	1,2146	0,1947	1 277
		2. Handling and Processing	1	913	0,9980	0,0949	911		1,2137	0,1224	1 108	1,3518	0,1490	1 305
		3. Industrial Chemistry	1	637	1,1018	0,0808	702		1,2120	0,1441	772	1,2641	0,1878	805
		4. Measuring; Optics	1	674	0,8994	0,1397	606		1,0943	0,1007	738	1,0957	0,0842	738
		5. Computers	1	625	4,3509	0,6199	2 719		6,7945	0,2870	4 247	8,2661	0,3346	5 166
		6. Human Necessities	1	710	0,9851	0,0448	699		0,9979	0,0701	709	0,9838	0,1187	699
		7. Organic Chemistry	1	1 251	1,0091	0,1102	1 262		1,0373	0,1553	1 298	1,0456	0,1712	1 308
		8. Audio Video Media	1	750	1,0000	0,0000	750		1,0000	0,0000	750	1,0000	0,0000	750
		9. Civil Engineering & Thermodynamics	1	615	0,9955	0,0819	612		1,0889	0,0632	670	1,1586	0,0902	713
		10. Electronics	1	575	0,9831	0,0690	565		0,9892	0,0463	569	0,9302	0,0349	535
		11. Polymers	1	462	1,1476	0,0877	530		1,0000	0,0000	462	0,8370	0,2192	387
		12. Biotechnology	1	872	0,7882	0,2067	687		1,0562	0,1533	921	1,1012	0,1613	960
		13. Telecommunications	1	688	0,8016	0,1761	551		0,9443	0,1742	650	1,0673	0,1721	734
		14. Vehicles & General Technology	1	435	1,0937	0,1187	476		1,1516	0,1233	501	1,1644	0,1258	507
		Unclassified	1	1 000	1,0000	0,0000	1 000		1,0000	0,0000	1 000	1,0000	0,0000	1 000
		Total		11 258			13 315				15 621			16 812
		LCL (Total)					(11 611)				(14 012)			(15 035)
		UCL (Total)					(15 398)				(17 611)			(18 986)
Subsequent	Euro-PCT-IP	1. Electrical Machines	1	142	1,2745	0,1873	181		1,5604	0,3851	222	1,6027	0,3824	228
		2. Handling and Processing	1	206	0,9670	0,0772	199		1,0443	0,0630	215	1,0732	0,0704	221
		3. Industrial Chemistry	1	144	0,9908	0,0124	143		0,9460	0,0743	136	0,9381	0,0857	135
		4. Measuring; Optics	1	138	0,9139	0,1331	126		0,9997	0,0586	138	1,0069	0,0677	139
		5. Computers	1	168	1,0000	0,0000	168		1,0000	0,0000	168	1,0000	0,0000	168
		6. Human Necessities	1	228	1,0485	0,0581	239		1,0485	0,0581	239	1,0423	0,0604	238
		7. Organic Chemistry	1	212	0,6947	0,2983	147		0,7686	0,3435	163	0,7701	0,3689	163
		8. Audio Video Media	1	113	1,0000	0,0000	113		1,0000	0,0000	113	1,0000	0,0000	113
		9. Civil Engineering & Thermodynamics	1	160	0,9925	0,1745	159		1,2369	0,2077	198	1,3010	0,1929	208
		10. Electronics	1	77	0,9561	0,0493	74		0,9623	0,0587	74	0,9628	0,0697	74
		11. Polymers	1	67	1,0000	0,0000	67		1,0000	0,0000	67	1,0000	0,0000	67
		12. Biotechnology	1	107	1,0105	0,0546	108		0,8381	0,2767	90	0,8526	0,2947	91
		13. Telecommunications	1	134	0,7773	0,1150	104		0,8953	0,0560	120	1,0000	0,0000	134
		14. Vehicles & General Technology	1	111	0,8886	0,1094	99		0,9025	0,1009	100	0,9322	0,1074	103
		Unclassified	1	4 591	1,0000	0,0000	4 591		1,0000	0,0000	4 591	1,0000	0,0000	4 591
		Total		6 598			6 518				6 634			6 674
		LCL (Total)					(6 186)				(6 310)			(6 350)
		UCL (Total)					(6 921)				(7 087)			(7 137)
All	Euro-Direct	1. Electrical Machines	1	4 921	0,9468	0,0648	4 659		1,0402	0,0676	5 119	1,0771	0,0650	5 400
		2. Handling and Processing	1	4 764	1,0118	0,0835	4 820		1,0004	0,0934	4 766	1,0921	0,0888	5 203
		3. Industrial Chemistry	1	2 996	0,8948	0,1477	2 681		1,0407	0,1142	3 118	1,0091	0,1153	3 023
		4. Measuring; Optics	1	3 086	0,8857	0,1458	2 733		0,9781	0,0651	3 018	0,9878	0,0650	3 048
		5. Computers	1	1 697	0,8452	0,2074	1 434		1,0813	0,3538	1 835	1,1313	0,3009	1 920
		6. Human Necessities	1	4 200	1,0095	0,1717	4 240		1,1331	0,1466	4 759	1,1346	0,1495	4 766
		7. Organic Chemistry	1	2 144	0,9171	0,1214	1 966		0,8539	0,1712	1 831	0,9411	0,1458	2 038
		8. Audio Video Media	1	2 799	1,1371	0,1694	3 183		1,2593	0,3038	3 525	1,3538	0,3992	3 789
		9. Civil Engineering & Thermodynamics	1	4 436	0,9995	0,1166	4 434		1,3182	0,3135	5 847	1,0634	0,1572	4 717
		10. Electronics	1	2 283	1,0388	0,1037	2 371		1,1089	0,1946	2 532	1,1602	0,2505	2 649
		11. Polymers	1	1 995	0,8792	0,2195	1 754		1,0242	0,0536	2 043	1,0821	0,0865	2 159
		12. Biotechnology	1	771	0,9505	0,1087	733		1,0345	0,1331	798	1,0825	0,1057	835
		13. Telecommunications	1	1 867	0,9823	0,2744	1 834		1,0447	0,2431	1 951	1,1383	0,2642	2 235
		14. Vehicles & General Technology	1	4 166	0,8211	0,1707	3 421		0,9495	0,1817	3 956	1,0091	0,1736	4 204
		Unclassified	1	3 477	1,0000	0,0000	3 477		1,0000	0,0000	3 477	1,0000	0,0000	3 477
		Total		45 602			43 741				48 574			49 233
		LCL (Total)					(35 091)				(39 506)			(40 157)
		UCL (Total)					(62 035)				(58 808)			(58 161)
All	Euro-PCT-IP	1. Electrical Machines	1	7 070	1,1670	0,1174	8 251		1,2517	0,1277	8 849	1,2323	0,1167	8 712
		2. Handling and Processing	1	6 841	0,9999	0,1074	6 840		1,0726	0,0940	7 338	1,1456	0,1339	7 837
		3. Industrial Chemistry	1	7 237	1,0359	0,1529	7 497		1,3303	0,1290	9 627	1,3881	0,1691	10 046
		4. Measuring; Optics	1	5 808	1,0480	0,0860	6 087		1,1153	0,1040	6 477	1,1415	0,1149	6 630
		5. Computers	1	7 088	1,0583	0,0747	7 501		1,7920	0,3809	12 702	1,8476	0,3296	13 805
		6. Human Necessities	1	9 050	1,0242	0,2316	9 269		1,0114	0,3341	9 153	1,0627	0,3384	9 617
		7. Organic Chemistry	1	12 152	1,0982	0,1214	13 345		1,1357	0,1411	13 801	1,2298	0,1384	14 948
		8. Audio Video Media	1	3 838	0,9541	0,0413	3 662		0,9541	0,0413	3 662	0,9541	0,0413	3 662
		9. Civil Engineering & Thermodynamics	1	5 488	1,1240	0,1826	6 168		1,2127	0,2229	6 655	1,5148	0,2223	8 313
		10. Electronics	1	3 334	1,0579	0,0840	3 527		1,0907	0,2219	3 636	1,1407	0,2676	3 803
		11. Polymers	1	4 980	1,5538	0,5241	7 738		2,0893	0,4641	10 405	2,1732	0,5076	10 822
		12. Biotechnology	1	9 431	1,0443	0,0788	9 849		1,0665	0,0943	10 058	1,1618	0,1076	10 957
		13. Telecommunications	1	4 537	0,7370	0,0897	3 344		0,9861	0,1701	4 474	1,1716	0,2019	5 045
		14. Vehicles & General Technology	1	4 373	1,0510	0,1681	4 596		1,0255	0,0852	4 484	1,1002	0,0914	4 811
		Unclassified	1	6 489	1,0000	0,0000	6 489		1,0000	0,0000	6 489	1,0000	0,0000	6 489
		Total		97 716			104 162				117 812			125 764
		LCL (Total)					(87 183)				(97 912)			(105 215)
		UCL (Total)					(123 169)				(140 457)			(148 479)
All	Euro-Direct	1. Electrical Machines		5 972			5 902				6 347		6 577	
		2. Handling and Processing		5 677			5 731				5 874		6 437	
		3. Industrial Chemistry		3 633			3 383				3 890		3 828	
		4. Measuring; Optics		3 760			3 339				3 756		3 787	
		5. Computers		2 322			4 154				6 082		7 086	
		6. Human Necessities		4 910			4 939				5 468		5 464	
		7. Organic Chemistry		3 395			3 229				3 128		3 326	
		8. Audio Video Media		3 549			3 933				4 275		4 539	
		9. Civil Engineering & Thermodynamics		5 051			5 046				6 517		5 430	
		10. Electronics		2 858			2 937				3 100		3 184	
		11. Polymers		2 457			2 284				2 505		2 546	
		12. Biotechnology		1 643			1 420				1 719		1 795	
		13. Telecommunications		2 555			2 385				2 600		2 859	
		14. Vehicles & General Technology		4 601			3 896				4 457		4 710	
		Unclassified		4 477			4 477				4 477		4 477	
		Total		56 860			57 055				64 195			66 045
		LCL (Total)					(48 239)				(54 986)			(56 797)
		UCL (Total)					(65 608)				(74 621)			(75 235)
All	Euro-PCT-IP	1. Electrical Machines		7 212			8 432				9 071		9 840	
		2. Handling and Processing		7 047			7 039				7 553		8 058	
		3. Industrial Chemistry		7 381			7 640				9 763		10 181	
		4. Measuring; Optics		5 946			6 213				6 615		6 769	
		5. Computers		7 256			7 669				12 870		13 973	
		6. Human Necessities		9 276			9 508				9 508		9 855	
		7. Organic Chemistry		12 364			13 492				13 964		15 107	
		8. Audio Video Media		3 951			3 775				3 775		3 775	
		9. Civil Engineering & Thermodynamics		5 648			6 327				6 853		8 521	
		10. Electronics		3 411			3 601				3 711		3 877	
		11. Polymers		5 047			7 805				10 472		10 889	
		12. Biotechnology		11 181			11 377				11 867		12 843	
		13. Telecommunications		4 938			5 833				7 194		8 309	
		14. Vehicles & General Technology		4 671			3 448				4 594		5 449	
		Unclassified		15 557			15 557				15 557		15 557	
		Total		104 314			110 679				124 446			132 437
		LCL (Total)					(93 698)				(104 544)			(111 886)
		UCL (Total)					(129 691)				(147 650)			(159 158)
All	Euro-Direct	1. Electrical Machines		13 184			16 734				188 641		198 483	
		2. Handling and Processing		12 724			12 771				168 711		175 946	
		3. Industrial Chemistry		11 014			11 022				215 574		222 991	
		4. Measuring; Optics		9 706</										

Fig. 4. Applicant Panel 2002: Forecasts of EPO filings. Random Group. Q indices. Estimating 14 separate clusters (DG2 definition). Analysis of logarithmic transformations.



this led to inaccurate growth rate estimates with high standard errors. In particular *Joint Cluster 5: Computers* has unrealistically high values for *Euro-direct First Filings*, but these are based on only three respondents for Year 2002 and two respondents for Years 2003 and 2004.

The relative accuracy of the *Joint Cluster* breakdown and the traditional Bloc of residence breakdown can be assessed by comparing [Tables IV](#) and [VI](#) (and corresponding [Fig. 2](#) and [4](#)). It can be seen that the confidence intervals are a little narrower by using the Bloc-wise breakdown. Thus it appears to be better to use a Bloc-wise breakdown rather than a Cluster-wise breakdown. However it is possible that a larger sample could give better results after a two way analysis combining both a Bloc-wise and a Cluster-wise breakdown. The Cluster-wise approach does provide forecasts for individual *Joint Clusters* of the various primordial combinations (*First Filings / Subsequent Filings*, *Euro-direct / Euro-PCT-IP*). The Cluster-wise breakdown gives higher forecasts - but this may be due to the sampling problems referred to above.

An attempt was made to rationalise the situation by combining several of the *Joint Clusters* on the basis of technical similarity, in order to give larger sample sizes per cluster. *Super-cluster A* included *Joint Clusters 5: Computers*, *10: Electronics* and *13: Telecommunications*. *Super-cluster B* included *Joint Clusters 6: Human Necessities*, and *12: Biotechnology*. *Super-cluster C* included *Joint Clusters 2: Handling and Processing*, and *11: Polymers*. This rationalisation led to a decrease in the forecasts and a small reduction in the widths of the confidence intervals. This method predicts a small increase in *Total Filings* to 162 857 in Year 2002 (approximate 95% confidence limits 141 944 and 181 521), 175 252 in Year 2003 (approximate 95% confidence limits 150 556 and 194 485), and 184 088 in Year 2004 (approximate 95% confidence limits 157 593 and 204 426).

V.4 Comparison of Results

There is a reasonable degree of agreement between the results given by the Biggest Group ([Table III](#)), and the Random Group after logarithmic transformation. This applies to breakdowns of the Random Group either by Blocs of residence of Applicants ([Table IV](#)) or by *Joint Clusters* ([Table VI](#)). Analysis of the variations indicates that the breakdown by Blocs gave more accurate results. All methods led to underestimation of the proportion of *Euro-PCT-IP Filings* in *Total Filings* for Year 2002. This may be due to the sampling method, which is based on *Euro-PCT-Regional Phase Filings* rather than *Euro-PCT-IP Filings* in the Base Year (Year 2001).

It may however be recommendable to correct the results downwards to take account of a possible non-response bias. The results reported in [Table V](#) show a possible way to do this. The approach errs on the side of conservatism, at least as far as Year 2002 is concerned, because of an underestimation of *Total Filings*. The method may nevertheless have provided better forecasts for the Years 2003 and 2004. To assess this, only time will tell.

VI Results 2: Forecasts for Patent Filings in the Major World Wide Patenting Systems

Intentions towards future Patent Filings were obtained for all the questions **(a)** to **(j)** in Part B of the Questionnaire. Further investigations were carried out, using the results from the Random Group, and applying the *Q-Index* method after transformation of the data into natural logarithms⁴. **Annex II** shows a series of tables that present the resulting Growth Index estimates for each question **(a)** to **(j)**, with breakdowns by Bloc of residence and by *First Filings / Subsequent Filings*. Standard errors of the Growth Indices and numbers of cases considered in each case are shown. Results are also given for *Combined Filings* (= *First Filings* + *Subsequent Filings*), but this is restricted to those respondents that gave information on both *First Filings* and *Subsequent Filings*. At the time of writing, figures for the Base Year (Year 2001) by *First Filings / Subsequent Filings* and Blocs of residence are not known for most of the Systems outside the EPO. So the results are presented in terms of Growth Rate estimates only.

The last table is most interesting, showing intentions towards *Worldwide Total First Filings (j)*. This suggests that fewer *First Filings* would be applied for in Year 2002 than in Year 2001 for all Blocs of residence. This is potential bad news for Filings in Year 2003 in supranational Systems, such as EPO and PCT Systems, that get most volume from *Subsequent Filings*. But the intentions for *Worldwide Total First Filings* turn to positive growth for Years 2003 and 2004, for all Blocs of residence except the United States. This suggests the possibility of a further growth in EPO Filings from Year 2004 to Year 2005. A very high rate of growth is estimated for Applicants in the *Others* Bloc, but this is based on only eleven responses and may reflect a sampling bias.

The results for *Patent Applications under the PCT (b)* show a fairly strong intention to increase numbers of *Subsequent Filings* via this system. The responses for *Designations under the PCT (c), (d), (e), and (f)* are rather similar to those from **(b)**. This indicates that most Applicants already designate the major Systems in their *PCT Applications* and intend to continue to do so in the future.

EPC resident Applicants are fairly positive about increasing their *Subsequent Filings* under the *PCT (b)* and *Euro-direct (a)* Systems. They also intend to make more *Subsequent National Applications* at all the Offices except the *German Patent Office (g)*, which is seen more as a receptacle for their *First Filings*. They also intend to increase the numbers of *First National Filings in Japan (j)* to some extent.

Applicants from Japan are quite bullish regarding *Patent Applications under the PCT (b)*, which probably reflects a continuation there in the tendency towards an increasing usage of the PCT system rather than National Systems. This tendency exists in the other Blocs also, but may be slowing down due to saturation at high proportions of *PCT Applications*. At first sight, Japanese Applicants seem to be very positive for Year 2002 towards *First Filings* in *National Applications* (excluding

⁴This approach was taken because of the success found with it in the EPO data analysed in Section V. above.

PCT) at foreign Patent Offices **(g)**, **(h)**, **(i)** and **(k)** - but these estimates are suspect because they have high standard errors and conflict with pessimistic intentions of Applicants from Japan for Year 2002 regarding *Worldwide Total First Filings (l)*. The Japanese Applicants seem to be keen on increasing their numbers of *Subsequent Filings in National Applications (excluding PCT) in United Kingdom (h)*, but less keen to do this *in France (i)*.

A rather pessimistic outlook of Applicants from the United States regarding *Worldwide First Filings (l)* has been referred to above, and is also reflected in their intentions as reported in the other tables, particularly regarding *National Applications (excluding PCT) in United States (k)*. However the United States-based Applicants do remain fairly positive towards use of *Patent Applications under the PCT (b)*, at least for *Subsequent Filings*. The United States Applicants seem to be keen on increasing their numbers of *Subsequent Filings in National Applications (excluding PCT) in France (i)*, but less keen to do this *in United Kingdom (h)*. This is opposite to the apparent intentions of Japanese Applicants as discussed in the previous paragraph.

The expected development of *Euro-PCT-IP Filings (c)* closely follows the overall expected development for *Patent Applications under the PCT (b)*. But Applicants from the United States and Japan are slightly more positive regarding *Euro-PCT-IP Filings* than towards *Patent Applications under the PCT (b)* in general. Is the expected development of *Euro-direct (a)* typical of expected developments at National Patent Offices? In comparison to *National Applications (excluding PCT) in Japan (j)* and *in United States (k)*, the intentions towards *Euro-direct Filings (a)* seem on the whole to be a little better. The situation is unclear with regard to a comparison of *Euro-direct Filings (a)* to Filings at National Patent Offices in Europe **(g)**, **(h)** and **(i)**. The United States resident Applicants seem to be keener to make *Subsequent National Applications (excluding PCT) in Germany (g)*, rather than *Subsequent Euro-direct Filings (a)*, but otherwise the differences between responses to questions **(a)** and **(g)** seem unlikely to have much statistical significance.

Interpretation of the results for filing at world wide Patent Offices should be made with care, because the sampling frame covered only Applicants that had previously applied at the EPO. No conclusions can be made about the intentions of Applicants in the other Systems that did not also apply to the EPO in Year 2001.⁵

⁵ The Trilateral Statistical Report (2001 Edition) gives some information on the relative sizes of the pools of Applications that do or do not flow abroad from each Bloc of residence.

VII Results 3: Breakdown of Patents by *Technical Units* and R&D Budgets

Applicants were asked about the level of their R&D Budgets and the numbers of *First Filings* in Year 2001, broken down by the *Technical Units* of the *International Patent Classification (IPC)* (1994). **Annex VII Section C** shows the questions and identifies the *Technical Units* concerned. 28 out of the 31 available *Technical Units* were included on the Questionnaire. In addition a 29th class was included for inventions not otherwise falling within a *Technical Unit*.

Responses were received on this part of the Questionnaire from 449 Applicants. Attention is restricted here to the respondents that gave information about at least some of their activities in the 28 specific *Technical Units*, and only to the responses given for those Units. Responses were obtained from 232 Applicants on breakdowns of Patents by *Technical Units* (52% of respondents who tackled **Section C**), 240 respondents on their R&D Budgets for Year 2001 (53% of respondents who tackled **Section C**), and from 199 respondents on amounts of their R&D spend for Year 2001 that took place prior to patenting (44% of respondents who tackled **Section C**). R&D Budgets data were collected in National currency and converted to Euro using exchange rates quoted on 25th February 2003. **Table VII** shows some more details of these responses, including estimates of the Average (median) R&D expenditures per respondent. The information in the table has been pooled across all 449 respondents and 28 *Technical Units*.

Table VII Patents and R&D Budgets

	Intentions for First Filings by Technical Units	R&D Budget Year 2001		First Filing intentions by technical groupings and R&D Budget - Year 2001		R&D Total Budget Year 2002
		Total Budget	Pre-Patent Budget	Total Budget	Pre-patent Budget	
No. of respondents	232	240	199	149	85	225
No. of Technical Units	501	416	134	216	111	385
Average No. of <i>Technical Units</i> per respondent	2.2	1.7	1.4	1.5	1.3	1.7
Median R&D spend per Applicant (EUR)		6 830 000	680 000	9 327 000	660 000	5 370 000

Fig. 5 shows a breakdown of the responses regarding 501 *Technical Unit* assignments given by 232 respondents. It appears that, on average, respondent companies seem to innovate in two or three of the 28 named *Technical Units*. When the data for individual estimates of R&D per *First Filing* are examined on a

Fig. 5. Patent filing intentions by Technical Units. Numbers of responses per Technical Unit.

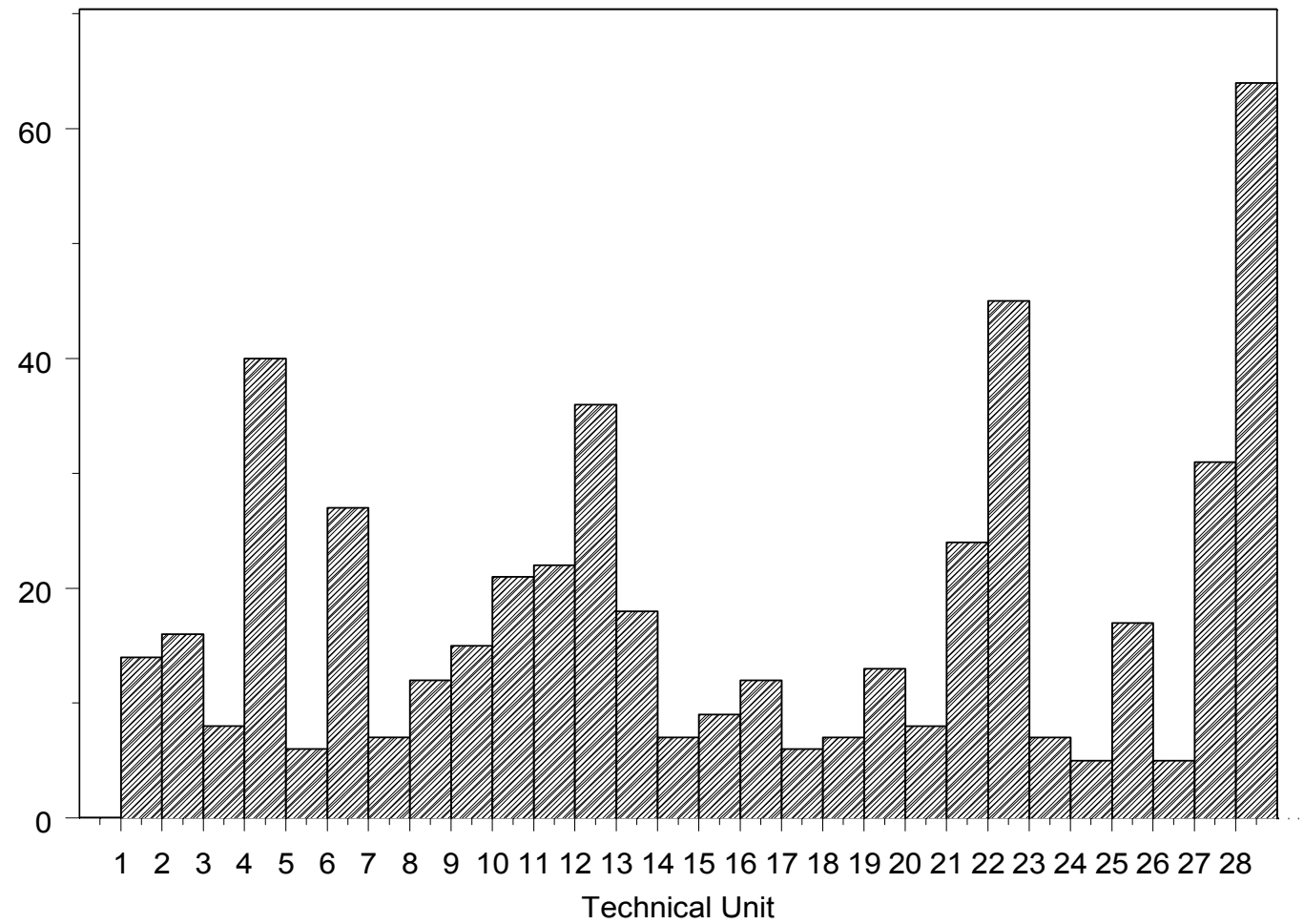
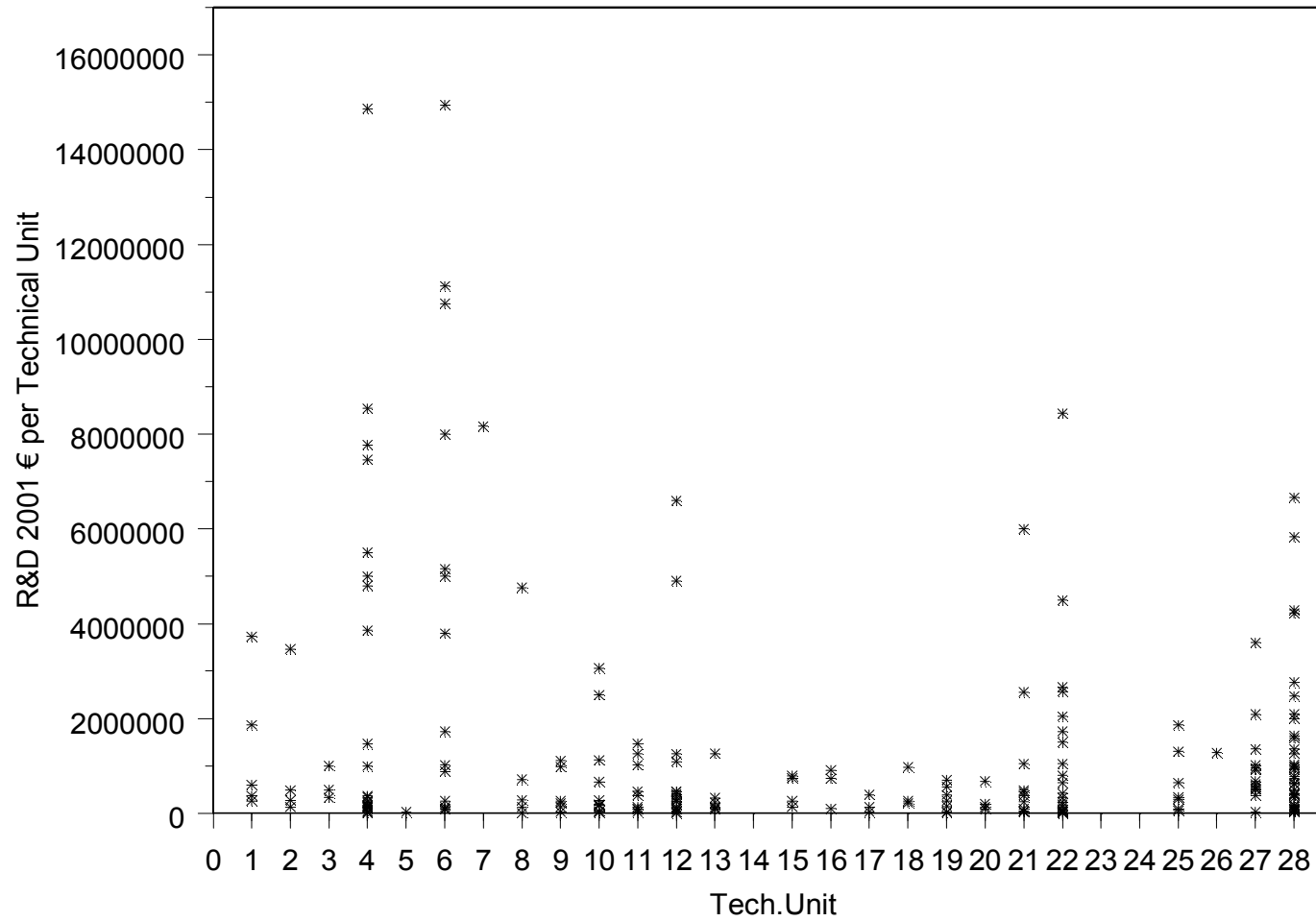


Fig. 6. First Patent Filings in Year 2001 by Technical Units.

Average R&D Budget Year 2001 per First Patent Filing.



Unit by Unit basis, a wide degree of variability can be seen. **Fig. 6** shows these data for Average (mean) *Year 2001 Total Budget per Technical Unit*, while **Fig. 7** shows the data for Average (mean) *Year 2001 Pre-patent Budget per Technical Unit*. It is apparent that, for some *Technical Units*, it is possible for R&D spend per *First Filing* to be high, but in these groups there are also instances of a low spend. This makes the data more variable than for other *Technical Units* where only small amounts are spent. There are many reasons for patenting and the data indicate the variability in costs of Patent Applications in terms of the investment equivalent to achieving an Application. These R&D investment figures can probably also be used as proxies for assessing the resulting Patent Values, since it would be irrational to invest in obtaining Patents if their Average Value is less than their Average Cost⁶.

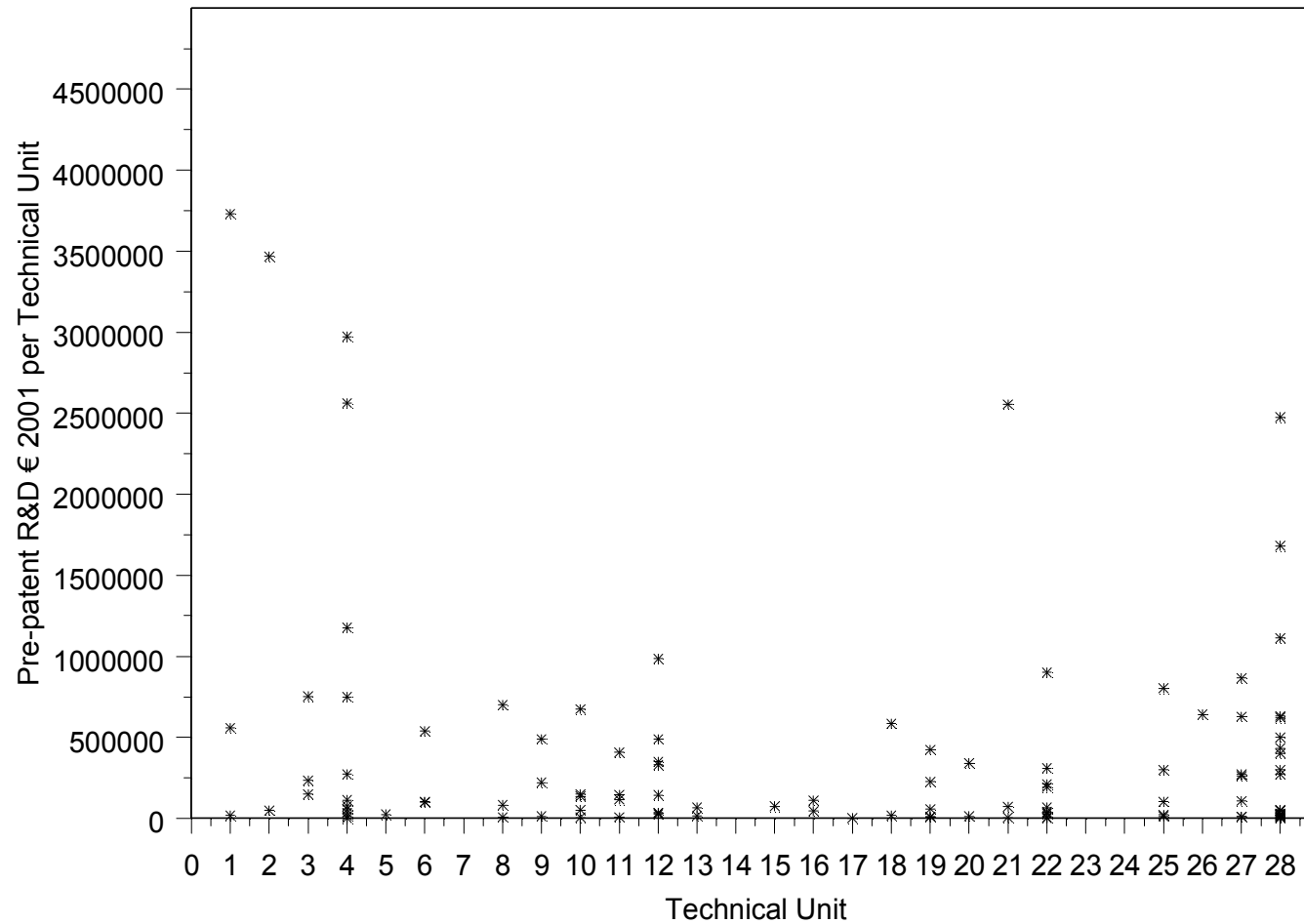
On balance the Average R&D spending per *First Filing* is probably best assessed using the Median rather than the Mean, particularly because a few mis-recorded data values were discovered. On average EUR 417 700 *Total R&D Budget 2001* was equivalent to each *First Filing* in Year 2001. From this, an average of EUR 108 000 was spent in the pre-patenting phase, representing about 26% of the *Total R&D Budget 2001*. The averages are markedly less than those reported in previous EPO Applicant Panel surveys, but this is because the previous surveys reported Average R&D investments for EPO Filings rather than for *First Filings*. Mean values (not reported) of *Total R&D Budget 2001 per Patent* are higher because of small numbers of very high valued Patents.

There is expected to be a lag, of possibly more than three years, between current R&D Budgets and the Patent Applications resulting from those Budgets. Therefore it seems necessary that these data should be collected over a number of years before such relationships can be properly established.

⁶ However a more sophisticated analysis would be required to obtain the added value of a Patent above the value of the R&D investment in the absence of patenting.

Fig.7. First Patent Filings in Year 2001 by Technical Units.

Average Pre-patent application phase R&D Budget Year 2001 per First Patent Filing.



VII Conclusions

The most appropriate set of provisional forecasts is given by the results developed in **Section V.2**, analysing the answers to the questions on Filings at the EPO in the Random Group after a correction for non-response bias. **Table V** shows the forecasts together with their estimated 95% confidence limits, and **Table VIII** is a summary of this. The non-response correction has the effect of making a mild reduction to the forecasts that would otherwise have been obtained (**Table IV**).

Table VIII: Summary of results

Year	Euro-direct Filings	Euro-PCT-IP Filings	Total Filings	Euro-PCT-IP in % of Total Filings
2002 actual	53 804	111 316	165 120	67.4
2002 forecast	54 080 (34 088 - 74 073)	105 468 (92 377 - 118 559)	159 548 (135 651 - 183 445)	66.1
2003 forecast	58 275 (43 915 - 72 635)	118 150 (107 065 - 129 235)	176 425 (158 284 - 194 566)	67.0
2004 forecast	60 804 (45 478 - 76 131)	127 410 (115 5952 - 139 224)	188 214 (168 862 - 207 566)	67.7

The 95% confidence intervals have been calculated by a new method and seem acceptable when compared to those reported in previous years. However it is possible that the limits for Years 2003 and 2004 are a little too narrow (for reasons explained in **Annex V**), which may explain why the limits given for Year 2003 are narrower than those for Year 2002. The limits for Year 2004 are slightly wider than those for Year 2003, but still narrower than those for Year 2002.

The survey covered an appreciable percentage of Applications to the EPO (**Annex I**). The responses that were received from the Biggest Group represented 15.7% of Filings, and the responses that were received from the Random Group represented 20.3% of Filings, using Filings in Year 2001 as reference. Thus the results should be fairly representative of overall future intentions. Difficulties may however have arisen if the probability of response to the survey was lower among pessimistic Applicants, which is the reason why it was decided to apply the non-response correction.

The percentage of *Euro-PCT-IP Filings* in EPO Filings is, as usual, slightly underestimated in the current survey. It is possible that the cause for this is that data restrictions led to the necessity to use a proxy variable, *Euro-PCT Regional Phase Filings*, in the sampling scheme rather than *Euro-PCT-IP Filings*. It seems likely that the World Intellectual Property Organization (WIPO) may be able to deliver accurate data on individual *Euro-PCT-IP Filings* more quickly to the EPO in the future, and this may be important to improve future surveys.

The survey has provided estimates of filing intentions in all major Patent Systems as well as the EPO. For most Systems studied, there were forecasts for drops in Filings in Year 2002 but the prospect of renewed growth in Filings from Year 2003 onwards. Since world wide *First Filings* are expected to increase through Year 2004, this should lead to further growth in Subsequent Filings at the EPO from Year 2004 to Year 2005. It was verified that most PCT Applications designate EPO, Germany, Japan and the United States.

The analysis of R&D Budgets suggests an Average Total R&D Budget for Year 2002 of EUR 5 370 000 per respondent, compared to EUR 6 830 000 in Year 2001. On average, EUR 417 700 was equivalent to each *First Filing* in Year 2001, and from this EUR 108 000 was spent in the pre-patenting phase.

This survey was made in mid-2002, so it is necessary to assume that Filings intentions currently remain similar at the present time in order for the forecasts to be strictly valid. There seems to have been confidence of an increasing use of the Patent System just beyond the immediate horizon.

VII References

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Sizes of Populations and Samples for the EPO Applicant Panel Survey 2002.

		Euro- Applications in 2001			Euro- Applicants in 2001		
		-direct	-PCT- IP	All	-direct	-PCT- IP	All
1. Population (2001)		56 855*	104 433*	161 295*	14 771*	35 447*	46 828*
Sample group A: Largest applicants							
2.	Number asked	27 651*	27 494*	55 145*	428*	402*	456*
	as % of 1.	48,6%	26,3%	34,2%	2,9%	1,1%	1,0%
	Number of quantitative responses	12 020	13.292	25.312	157	149	169
	as % of 1.	21,1%	12,7%	15,7%	1,1%	0,4%	0,4%
	as % of 2.	43,5%	48,3%	45,9%	36,7%	37,1%	37,1%
Sample group B1: Random sample.							
3.	Number asked	30 065*	30 575*	60 640*	1 336*	1 096*	2 076*
	as % of 1.	52,9%	29,3%	37,6%	9,0%	3,1%	4,4%
	Number of quantitative responses	16 189	16.562	32.751	438	419	599
	as % of 1.	28,5%	15,9%	20,3%	3,0%	1,2%	1,3%
	as % of 3.	53,8%	54,2%	54,0%	32,8%	38,2%	28,9%

* From database

Other Numbers are based on figures given by the respondents

Sample sizes summarised from responses analysed by EPO, which differ slightly from numbers given in the *Methodenbericht*.

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Euro-direct: Patent applications under the EPC (excluding PCT) (a)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	173	0.9964	0.0674	142	155	1.0850	0.0763	116	126	1.1248	0.0926	110	119
Subsequent	187	0.9257	0.0484	162	167	1.0183	0.0668	136	142	1.0290	0.0501	129	134
Combined	105	0.9244	0.0547	77	87	0.9671	0.0565	59	68	0.9874	0.0576	57	66

Japan resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	62	1,2469	0,2772	51	54	1,3146	0,3153	45	47	1,3661	0,3592	43	45
Subsequent	77	1,0234	0,0892	65	66	1,0711	0,1413	59	60	1,1075	0,1616	58	59
Combined	50	0.9596	0.0910	39	40	0.9518	0.0729	34	35	0.9743	0.0822	32	33

US resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	69	0.8757	0.1328	65	69	1.0571	0.0552	57	61	1.0587	0.0590	52	56
Subsequent	60	0.9300	0.1292	58	59	1.0094	0.1245	52	54	1.1096	0.1166	47	48
Combined	51	0.8913	0.1268	50	52	0.9382	0.1626	44	47	1.0558	0.1295	40	42

OTHERS resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	11	1,4625	0,2536	8	9	1,5545	0,2236	8	10	1,6927	0,2354	8	9
Subsequent	7	1,0871	0,2004	4	4	1,1104	0,4606	4	4	1,3465	0,5636	4	4
Combined	2	1.0460	0.1520	2	2	1.1418	0.1953	2	2	1.3008	0.1561	2	2

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Patent applications under the PCT (b)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	108	0,8633	0,1244	87	101	0,9278	0,1477	72	86	0,9469	0,1529	67	79
Subsequent	198	1,0452	0,0588	170	181	1,0649	0,0703	145	156	1,1321	0,0787	135	145
Combined	72	1.0049	0.1024	55	65	1.0404	0.1201	44	48	1.0685	0.1186	41	45

Japan resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	64	1.0035	0.0502	52	55	1.0123	0.0615	46	47	1.0479	0.0484	45	47
Subsequent	76	1.1307	0.0958	66	66	1.2467	0.1031	60	60	1.3395	0.1210	57	57
Combined	51	1.1794	0.1071	40	40	1.2487	0.1148	35	35	1.3171	0.1233	34	34

US resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	77	0,9137	0,0691	71	77	0,9008	0,1445	62	68	0,9009	0,1654	56	62
Subsequent	71	0,9905	0,0628	67	73	1,0510	0,1134	57	66	1,1373	0,1302	51	58
Combined	50	0,9706	0,0655	46	50	0,9798	0,1235	39	44	1,0651	0,1403	37	42

OTHERS resident applicants

Case : Pat. appl. under PCT (b)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	14	1,6035	0,2695	11	13	2,0362	0,2111	9	10	2,3744	0,2164	8	8
Subsequent	7	1,1866	0,2018	7	7	1,5420	0,1568	7	8	1,6619	0,1904	4	4
Combined	3	1.2277	0.1575	2	3	1.4659	0.2165	2	3	1.6923	0.2684	2	2

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
 Total number of identified addresses in random sample: 1690
 Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Euro-PCT-IP: Patent applications under the PCT and designating E.P.O. (c)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	88	0,8364	0,1376	63	72	0,9115	0,1599	54	62	0,9457	0,1692	50	58
Subsequent	179	1,0335	0,0568	157	168	1,0811	0,0752	134	144	1,1445	0,0859	126	136
Combined	45	1,0110	0,1107	37	43	1,0447	0,1374	30	33	1,0865	0,1436	29	33

Japan resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	55	1,0408	0,0359	45	47	1,0433	0,0405	38	39	1,0509	0,0434	37	38
Subsequent	72	1,1203	0,0938	61	61	1,2540	0,1086	54	54	1,3322	0,1188	51	51
Combined	43	1.1501	0.1092	34	34	1.1990	0.0832	29	29	1.2692	0.0964	28	28

US resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	69	0,9423	0,0701	63	66	0,9226	0,1564	58	62	0,9282	0,1774	54	58
Subsequent	66	0,9901	0,0733	60	66	1,0794	0,0839	52	58	1,2204	0,0750	47	54
Combined	39	0,9276	0,0839	36	41	1,0053	0,1023	33	37	1,1682	0,0870	31	35

OTHERS resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	9	1,3493	0,3895	6	7	2,0628	0,5436	5	7	2,3413	0,5465	5	6
Subsequent	9	1,3132	0,2380	6	7	1,8849	0,2204	6	7	1,9191	0,3109	3	4
Combined	1	-	-	0	0	-	-	0	0	-	-	0	0

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Euro-PCT-IP: Patent applications under the PCT and designating U.S.A. (d)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	81	0,8349	0,1434	60	70	0,8884	0,1635	50	59	0,9082	0,1700	46	55
Subsequent	171	1,0447	0,0631	149	161	1,0735	0,0846	132	141	1,1267	0,0952	124	134
Combined	47	1,0168	0,1232	38	41	1,0356	0,1553	32	34	1,0694	0,1604	31	34

Japan resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	54	1,0398	0,0505	44	46	1,0460	0,0625	37	38	1,0507	0,0643	36	37
Subsequent	70	1,1037	0,0917	59	60	1,2210	0,1097	52	53	1,3270	0,1310	49	50
Combined	42	1,1705	0,1185	33	33	1,2288	0,1057	28	28	1,3302	0,1274	27	27

US resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	58	0,9709	0,0418	53	58	0,8850	0,1668	49	55	0,8829	0,1891	45	50
Subsequent	54	1,1190	0,0580	49	52	1,1151	0,0643	42	45	1,1624	0,0746	39	42
Combined	38	1,0860	0,0660	35	38	1,0627	0,0647	32	35	1,1050	0,0745	30	33

OTHERS resident applicants

Case : US design. (d)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	11	0,9386	0,2189	7	8	1,3230	0,2306	6	7	1,6335	0,2950	6	6
Subsequent	7	1,2689	0,2530	5	5	1,5408	0,1696	6	6	1,9697	0,0070	2	2
Combined	0	-	-	0	0	-	-	0	1	-	-	0	0

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Euro-PCT-IP: Patent applications under the PCT and designating Japan (e)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : JP design. (e)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	68	0,8711	0,1602	53	59	0,9330	0,1826	40	43	0,9421	0,1846	39	43
Subsequent	154	1,0321	0,0595	139	149	1,0569	0,0826	117	126	1,0964	0,0914	110	118
Combined	44	1,0101	0,1078	37	40	1,0135	0,1436	31	32	1,0507	0,1534	30	31

Japan resident applicants

Case : JP design. (e)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	56	1,0060	0,0095	44	46	1,0096	0,0129	37	38	1,0155	0,0172	36	37
Subsequent	63	1,0884	0,0912	52	54	1,2539	0,1011	44	45	1,3242	0,1182	43	44
Combined	43	1,0535	0,0665	34	34	1,1853	0,0926	29	29	1,2750	0,1225	28	28

US resident applicants

Case : JP design. (e)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	61	0,9307	0,0734	57	61	0,9012	0,1639	52	58	0,9027	0,1864	48	53
Subsequent	61	0,9985	0,0665	56	59	1,0381	0,0857	49	53	1,1699	0,0732	45	49
Combined	37	0,9501	0,0725	35	38	0,9976	0,1046	32	35	1,1418	0,0800	31	34

OTHERS resident applicants

Case : JP design. (e)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	8	1,5467	0,6626	5	6	2,2057	0,7051	4	5	2,4361	0,6781	4	4
Subsequent	7	1,5670	0,2385	7	7	2,2155	0,2273	6	6	2,5712	0,4168	4	4
Combined	1	-	-	0	0	-	-	0	0	-	-	0	0

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: Euro-PCT-IP: Patent applications under the PCT and designating Germany (f)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : DE design. (f)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	69	0,8745	0,1198	52	61	1,0398	0,1347	43	49	1,1157	0,1122	40	48
Subsequent	123	1,1945	0,1636	104	116	1,2720	0,1585	89	100	1,3443	0,1423	83	95
Combined	37	0,9061	0,1455	31	34	0,9897	0,1026	27	28	1,0680	0,0699	26	28

Japan resident applicants

Case : DE design. (f)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	52	1,0278	0,0273	42	43	1,0168	0,0189	35	35	1,0242	0,0247	34	34
Subsequent	58	1,1275	0,0996	43	43	1,2288	0,1362	36	36	1,2469	0,1387	35	35
Combined	41	1,0293	0,0525	30	30	1,0581	0,0676	26	26	1,0739	0,0738	25	25

US resident applicants

Case : DE design. (f)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	58	0,9609	0,0445	53	55	0,8746	0,1626	48	51	0,8645	0,1811	44	47
Subsequent	52	1,0227	0,0629	47	51	1,0711	0,0618	41	44	1,1525	0,0737	38	41
Combined	37	0,9919	0,0636	34	37	1,0187	0,0551	31	34	1,0958	0,0732	29	32

OTHERS resident applicants

Case : DE design. (f)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	5	1,3501	0,4436	4	4	1,4734	0,3766	4	4	1,5407	0,3504	4	4
Subsequent	7	1,2652	0,2524	5	5	1,7400	0,1734	5	5	1,8582	0,0336	2	2
Combined	0	-	-	0	0	-	-	0	0	-	-	0	0

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: National applications (excluding PCT) in Germany (g)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Nat. appl. in DE (g)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	191	1,0143	0,0492	178	187	1,0388	0,0482	150	158	1,0447	0,0592	140	147
Subsequent	78	1,0875	0,0904	61	66	0,9934	0,0993	51	53	1,0132	0,1466	51	54
Combined	60	0,9960	0,0744	52	55	0,9497	0,0498	43	44	0,9532	0,0699	42	44

Japan resident applicants

Case : Nat. appl. in DE (g)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	55	1,3347	0,3525	42	45	1,0046	0,0051	37	38	1,0047	0,0052	36	38
Subsequent	62	1,0624	0,0816	51	52	1,0715	0,0774	44	45	1,0563	0,0869	43	43
Combined	46	1,1763	0,1737	35	35	1,0901	0,1096	31	31	1,0959	0,1126	30	30

US resident applicants

Case : Nat. appl. in DE (g)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	52	0,9911	0,0325	45	48	1,0119	0,0465	40	42	1,0396	0,0835	35	37
Subsequent	45	1,1738	0,0865	43	45	1,2388	0,1116	39	41	1,3331	0,1531	34	36
Combined	37	1,0410	0,0631	36	38	1,0919	0,0951	34	36	1,1654	0,1491	30	32

OTHERS resident applicants

Case : Nat. appl. in DE (g)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	5	1,2049	0,1459	4	5	1,3538	0,2810	4	5	1,4308	0,3474	4	5
Subsequent	4	1,0014	0,0402	3	3	1,0574	0,0418	3	3	1,0574	0,0418	3	3
Combined	3	0,9491	0,0527	2	2	1,0962	0,0912	2	2	1,0962	0,0912	2	2

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: National applications (excluding PCT) in United Kingdom (h)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Nat. appl. in GB (h)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	79	0,8874	0,2318	67	70	0,9350	0,2483	51	53	0,9129	0,2327	50	51
Subsequent	75	1,1563	0,2561	60	62	1,1213	0,2914	50	52	1,1244	0,2943	48	50
Combined	49	1,0725	0,2264	42	43	1,0930	0,2504	33	33	1,0737	0,2371	32	32

Japan resident applicants

Case : Nat. appl. in GB (h)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	56	1,3616	0,3504	42	45	1,0293	0,0398	37	38	1,0299	0,0406	36	38
Subsequent	63	1,1172	0,0901	51	52	1,0900	0,0644	44	45	1,0934	0,0663	43	43
Combined	46	1,2398	0,1753	35	35	1,0899	0,0906	31	31	1,0957	0,0933	30	30

US resident applicants

Case : Nat. appl. in GB (h)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	56	0,9796	0,0305	48	51	0,6848	0,4939	44	46	0,6702	0,5739	39	41
Subsequent	46	0,8467	0,2563	43	45	0,9888	0,2335	39	41	1,0239	0,2942	34	36
Combined	37	0,7998	0,2805	36	38	0,9140	0,2450	34	36	0,9363	0,3127	30	32

OTHERS resident applicants

Case : Nat. appl. in GB (h)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	4	1,6781	0,3566	4	5	1,9047	0,4717	4	5	2,1401	0,5942	4	5
Subsequent	4	1,4675	0,2508	3	3	1,6031	0,2209	2	2	1,6031	0,2209	2	2
Combined	2	1,0000	0,0000	2	2	1,0000	0,0000	1	1	1,0000	0,0000	1	1

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: National applications (excluding PCT) in France (i)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Nat. appl. in FR (i)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	84	1,0888	0,0663	75	77	1,1550	0,0665	57	59	1,1873	0,0699	56	57
Subsequent	69	1,1156	0,0660	58	64	1,0884	0,0805	48	52	1,0772	0,0685	46	49
Combined	45	1,1238	0,0787	39	40	1,0769	0,1028	31	31	1,0746	0,0914	30	30

Japan resident applicants

Case : Nat. appl. in FR (i)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	54	1,3438	0,3642	40	42	1,0000	0,0000	35	36	1,0000	0,0000	34	35
Subsequent	60	0,9995	0,0723	50	50	0,9910	0,0483	43	43	0,9898	0,0494	42	42
Combined	45	1,0956	0,1683	34	34	0,9888	0,0185	30	30	0,9885	0,0189	29	29

US resident applicants

Case : Nat. appl. in FR (i)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	53	0,9939	0,0164	44	47	1,0488	0,0813	40	42	1,1214	0,1480	35	37
Subsequent	43	1,1452	0,0785	41	43	1,1621	0,0879	37	40	1,1822	0,1258	32	35
Combined	35	1,0729	0,0844	34	36	1,2601	0,2326	32	35	1,1132	0,1369	28	31

OTHERS resident applicants

Case : Nat. appl. in FR (i)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	5	1,8270	0,4811	4	5	2,0989	0,5188	4	5	2,2930	0,5687	4	5
Subsequent	3	1,2663	0,0975	3	3	1,3954	0,1685	2	2	1,3954	0,1685	2	2
Combined	2	1,2936	0,2554	2	2	2,0000	0,0000	1	1	2,0000	0,0000	1	1

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
Total number of identified addresses in random sample: 1690
Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings: National applications (excluding PCT) in Japan (j)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Nat. appl. in JP (j)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	53	1,0117	0,0305	46	50	1,0734	0,0953	35	40	1,0782	0,0975	34	37
Subsequent	104	1,0095	0,0710	92	95	1,0529	0,0721	77	80	1,0619	0,0609	75	78
Combined	41	1,0272	0,1289	36	37	1,0030	0,1477	29	30	1,0141	0,1137	28	29

Japan resident applicants

Case : Nat. appl. in JP (j)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	89	0,9883	0.0888	79	82	1,1065	0,0317	69	70	1,1304	0,0362	68	70
Subsequent	57	1,1126	0.0835	49	49	1,1846	0,0990	43	43	1,2425	0,1075	42	42
Combined	56	0,9334	0.1470	48	48	1,1239	0,0468	41	41	1,1501	0,0523	40	40

US resident applicants

Case : Nat. appl. in JP (j)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases		S.E.	#cases	#cases
	2001	Q Index	(log Q)	considered	2002	Q Index	(log Q)	considered	2003	Q Index	(log Q)	considered	2004
First	53	0,9431	0,0617	45	48	0,9774	0,0367	41	43	0,9888	0,0428	38	40
Subsequent	44	0,8972	0,2169	41	43	1,0787	0,1464	36	39	1,1527	0,1658	31	35
Combined	35	0,8800	0,2239	34	36	1,0478	0,1527	31	34	1,1345	0,1764	28	31

OTHERS resident applicants

Case : Nat. appl. in JP (j)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	8	1,2379	0,2014	5	5	1,2689	0,2360	5	5	1,2873	0,2561	5	5
Subsequent	5	0,7909	0,1875	4	5	0,7909	0,1875	4	5	0,7909	0,1875	4	5
Combined	5	0.8297	0.2056	3	3	0.8297	0.2056	3	3	0.8297	0.2056	3	3

European Patent Office Applicant Panel Survey 2002.

Random Sample of applicants to the EPO in 2001.

Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)

Survey sampling carried out from May to September 2002.

Total number of applicants in random sample: 2076
 Total number of identified addresses in random sample: 1690
 Total number of response questionnaires in random sample: 599

Intentions of Applicants regarding filings:

National applications (excluding PCT) in United States (k)

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004.

Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

EPC resident applicants

Case : Nat. appl. in US (k)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	116	0,9590	0,1158	98	103	1,0351	0,1274	78	85	1,1121	0,1469	75	80
Subsequent	143	0,9501	0,0699	119	127	1,0064	0,0564	99	106	1,0349	0,0539	93	100
Combined	72	0,9495	0,0917	56	61	0,9831	0,0673	44	49	1,0456	0,0565	40	45

Japan resident applicants

Case : Nat. appl. in US (k)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	62	1,2534	0,3194	51	53	1,0229	0,0891	44	45	1,0177	0,0906	42	43
Subsequent	77	0,9951	0,0884	67	67	1,0507	0,1205	60	60	1,1050	0,1465	59	59
Combined	52	1,0739	0,1670	41	41	1,0385	0,0923	37	37	1,0522	0,0907	35	35

US resident applicants

Case : Nat. appl. in US (k)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	93	0,9310	0,0696	83	87	0,9877	0,0806	74	78	1,0219	0,0978	67	71
Subsequent	61	0,9459	0,0688	54	57	0,9615	0,1198	45	50	0,9614	0,1385	41	45
Combined	59	0,9146	0,0800	52	55	0,9557	0,1057	44	48	0,9877	0,1229	40	43

OTHERS resident applicants

Case : Nat. appl. in US (k)

Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First	14	1,0197	0,0952	10	12	1,1030	0,1017	10	12	1,2031	0,1688	7	9
Subsequent	8	1,2372	0,1636	6	6	1,0893	0,3147	5	5	1,2000	0,3790	4	4
Combined	7	1,2648	0,1351	5	5	1,2871	0,2005	4	4	1,4886	0,1968	3	3

Random Sample of applicants to the EPO in 2001.
Simple random sampling by applications (Euro-direct and Euro-PCT regional phase)
Survey sampling carried out from May to September 2002.

Total number of applicants in random sample:	2076
Total number of identified addresses in random sample:	1690
Total number of response questionnaires in random sample:	599

Q Index estimates should be multiplied by the number of filings in the base year (year 2001) to give forecasts of filings for years 2002, 2003 and 2004. Analysis based on natural logarithms of individual growth indices per applicant. S.E. (log Q) is the standard error of the natural logarithm of the Q Index.

Case : Worldwide Total Mod (I) Q INDICES

Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First Subsequent Combined	319	0,9659	0,0249	300	313	1,0360	0,0298	266	275	1,0697	0,0404	249	256

Case :	Nat. appl. in US (k)	Q INDICES
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Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First Subsequent Combined	95	0,9857	0,0812	85	88	1,0773	0,0319	77	78	1,1059	0,0357	77	79

Case :	Nat. appl. in US (k)	Q INDICES
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Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First Subsequent Combined	113	0,9132	0,0641	107	113	0,9925	0,0752	98	103	1,0497	0,0879	88	93

Case :	Nat. appl. in US (k)	Q INDICES
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Filings	Year												
	2001	2002				2003				2004			
	#cases 2001	Q Index	S.E. (log Q)	#cases considered	#cases 2002	Q Index	S.E. (log Q)	#cases considered	#cases 2003	Q Index	S.E. (log Q)	#cases considered	#cases 2004
First Subsequent Combined	21	0,9114	0,2197	17	18	1,1919	0,1779	15	16	1,5350	0,2713	11	12

Comments Received From the Participating Applicant Panel Members

General Comments to Part B

- Genauere Zahlenangaben für Prognosen sind schwierig, Daten sind Schätzungen;
- Weitere Erstanmeldungen in nicht aufgeführten Ländern;
- Prognosen für 2002, 2003 und/oder 2004 noch nicht möglich, da z.B. Forschungsintensität stark schwankt;
- Zumindest gleichbleibende Entwicklung erwartet;
- Anstieg der Anmeldeaktivitäten erwartet, z.B. weil Patente zunehmend wichtige Rolle im Unternehmen spielen;
- Frage schwer zu verstehen/Ausfüllhinweise und Fragebogen verwirrend, z.B. da viele Anmeldungen, bei denen viele verschiedene „sets“ von EP-Ländern benannt werden (aber Fußnoten sind hilfreich)/nicht klar, was genau gefragt wird.

Individual Comments to Part B

- Eintritt in EPO immer durch PCT;
- Kein PCT, nationale Phase über EPO (1 Jahr nach US Anmeldung);
- System muss, um pan-europäisch zu werden, einfacher werden – das muss durchgesetzt werden, um Eigeninteressen der Industrie zu überwinden, die es sonst stoppen;
- Bei Benennungen PCT wurden solche zum Zeitpunkt der PCT-Anmeldung beabsichtigte angeführt;
- Umwandlung von PCT in nationale Anmeldungen, wenn dienlich;
- Nachanmeldungen stark abhängig von Verhalten EPA (rechtzeitiger Recherchenbericht, International vorläufige Prüfungsverfahren);
- Zunächst Erstanmeldung über USA, nach 12 Monaten Einbringung von ca. 80% in PCT-Phase unter Benennung aller Länder, 30 Monate später Einbringung von 60% in die nationale Phase unter Benennung aller europ. Länder, USA, Kanada und unter anderen Japan und Australien;
- Entweder Benennung aller Länder, oder USA, Australien, Japan, Kanada und Europa;
- Erstanmeldung unter EPC, dann PCT oder PCT und USA mit Prioritätsanspruch;
- Wenn Technologie nicht verkauft werden kann oder kein Lizenzvertrag zustande kommt, können die Patente verfallen, bevor die Anmeldung in PCT-Phase eintritt.

General Comments to Part C

- Detailaufschlüsselung in die einzelnen Bereiche nicht möglich/sehr schwierig;
- Zu allgemein/zu wenig umfassend (wichtige Bereiche wie z.B. Biotechnologie, Materialforschung, Optoelektronik, metallurgische Verfahren fehlen), nicht den Tätigkeiten angepasst (z.B. für die Pharmaindustrie).

Individual Comments to Part D

- Fragen sollten nicht auf Geld, sondern auf Zahl der Leute, die an F&E beteiligt sind, abzielen.

General Comments to Part D

- Unzufriedenheit mit der Dauer des Patentanmeldeverfahrens;
- Fragebogen zu detailliert, exakte Recherche der angegebenen geschätzten Zahlen zu aufwendig;
- Fragebogen schwer verständlich weil zu kompliziert und unklar;
- Freude auf/Interesse an Umfrageergebnisse;
- Umfrage ist eine gute Idee, interessant;
- Zu hohe Kosten für Patentanmeldung/Patentanwalt (z.B. für Einzelanmelder);

Individual Comments to Part D

- EU-Gemeinschaftspatent wäre sinnvoll;
- Das rationalisierte Verfahren unter Kap. II PCT ist für die Anmeldung wenig vorteilhaft, es könnte zur Änderung der Anmeldestrategie führen: weniger internationale, mehr nationale Anmeldungen;
- Online-Akteneinsicht besonders für mittelständische Unternehmen „super“;
- PCT-Verfahren wird durch automatische Prüfbescheide entwertet;
- Abschaffung des „Search report“ systems möglicherweise sinnvoll;
- Bei Rechtsstreitigkeiten und Patent-Verletzungen muss in jedem betroffenen Land separat gehandelt werden – eine Entscheidung müsste automatisch die gleichen Produkte und Patentverletzer in Europa abdecken, sonst können wir uns nicht darauf verlassen (auch wenn es dagegen Widerstand geben wird);
- Rechtsstreitigkeiten um Patent-Verletzungen dauern lange, es werden schnell Experten zugezogen, die man bezahlen muss, die aber manchmal die Interpretation des Anwendungsgebietes der Patente nicht verstehen –

- das Schlimmste: eine negative Beschwerde erlaubt einen Wechsel im Gerichtsstand, und die Definition des Filing-Date variiert von Land zu Land;
- Genervt von der skeptischen Einstellung, die EP-Prüfer gegenüber Anmeldern aus Nicht-EP-Ländern an den Tag legen. Die Voreingenommenheit der EP-Prüfer gegenüber unseren Anmeldungen has sich definitiv gesteigert.

Logarithmic transformation for Calculation of Growth Indices.

The method previously used for calculating an average Index of Growth was described in the report *Applicant Panel Survey 2001, Annex III*. This is called the *Q-Index* and is given by

$$Q = \frac{\sum_{i=1}^n q_i I_i}{\sum_{i=1}^n q_i}$$

where $I_i = x_i / A_i$.

x_i is the intended number of Filings reported by the i^{th} sampled Applicant in the year of interest (2002, 2003 or 2004 in the current survey).

A_i is the known number of Applications made by the i^{th} sampled Applicant in the Base Year (2001 in the current survey).

n is the number of Applicants in the sample¹, and summation is taken over the sample members $i = 1, \dots, n$.

In the current survey, it was found to be appropriate to make a logarithmic transformation before calculating the *Q Index*. With a logarithmic transformation, the *Q Index* becomes

$$Q' = \exp \left[\frac{\sum_{i=1}^n q_i \text{Log}(I_i)}{\sum_{i=1}^n q_i} \right]$$

where $\text{Log}(I_i)$ is the natural logarithm of the individual index I_i , as defined above.

In order to assess the variability of Q , on the arithmetic scale, an estimate of the variance was given previously as

¹ For the sample in the 2002 survey, $n^+ = 3\,200$ and $n = 2\,076$. For an explanation of n^+ , see the report *Applicant Panel Survey 2001, Annex III*.

$$\text{Var}[Q] = \frac{\sum_{i=1}^n (I_i - Q)^2 q_i^2}{\left(\sum_{i=1}^n q_i \right)^2}$$

This estimate assumed a normal distribution of data on the arithmetic scale of I_i . But it is now assumed to be appropriate to make an assumption of normality for the scale of $\text{Log}(I_i)$. Therefore the variance of $\text{Log}(Q')$ can be written in an equivalent way as

$$\text{Var}[\text{Log}(Q')] = \frac{\sum_{i=1}^n (\text{Log}(I_i) - \text{Log}(Q'))^2 q_i^2}{\left(\sum_{i=1}^n q_i \right)^2}$$

It follows that, on the arithmetic scale, Q' can be assumed to have a Lognormal distribution (Johnson et al., 1994). The Standard Error of $\text{Log}(Q')$ is given as $\text{S.E.}[\text{Log}(Q')] = \sqrt{\text{Var}[\text{Log}(Q')]}$.

Following *Applicant Panel Survey 2001, Annex IV*, Consider a set of Growth indices $\{Q'_r\}$ collected over s primordial combinations (*Bloc of residence / Euro-Direct vs Euro-PCT-IP / First Filings vs Subsequent Filings*). Say that the number of Filings in the Base Year for combination r is A_{rb} . Then the forecasts in a later year for the number of Filings for combination r ($\hat{A}_r$), and for numbers of *Total Filings* ($\hat{A}$), are:

$$\hat{A}_r = A_{rb} \times Q'_r \quad ; \quad \hat{A} = \sum_{r=1}^s A_{rb} \times Q'_r$$

Approximate 95% confidence limits for $\hat{A}_r$ are given in a simple way by exponentiation of the usual normal distribution based limits on the logarithmic scale

$$\exp (\text{Log}(\hat{A}) \pm \{2 \times A_{rb} \text{S.E.}[\text{Log}(Q')]\}).$$

However, to make approximate 95% confidence limits for the linear transformation $\hat{A}$, it is necessary to take account of the fact that this is a linear combination of quantities that themselves follow Lognormal distributions. On the Logarithmic scale

$$\text{Log}(\hat{A}_r) = \text{Log}(A_{rb}) + \text{Log}(Q'_r) ,$$

So

$$\text{Var}[\text{Log}(\hat{A}_r)] = \text{Var}[\text{Log}(Q'_r)]$$

A Taylor expansion of this expression can be made about unity, assuming that projected growth is not too high or too low to invalidate the approximation.

$$\begin{aligned} \text{Var}[\text{Log}(Q'_r)] &\simeq \text{Var}[\text{Log}(1) + (Q'_r - 1)/1] \\ &= \text{Var}[Q'_r] \end{aligned}$$

Then

$$\begin{aligned} \text{Var}[\hat{A}_r] &= A_{rb}^2 \times \text{Var}[Q'_r] \\ &\simeq A_{rb}^2 \times (\text{Var}[\log(Q'_r)]) , \end{aligned}$$

and

$$\begin{aligned} \text{Var}[\hat{A}] &= \sum_{r=1}^S A_{rb}^2 \times (\text{Var}[Q'_r]) \\ &\simeq \sum_{r=1}^S A_{rb}^2 \times (\text{Var}[\log(Q'_r)]) \end{aligned}$$

Then, since $\text{S.E.}[\hat{A}] = \sqrt{\text{Var}[\hat{A}]}$, approximate 95% confidence limits for $\hat{A}$ are given by

$$\hat{A} \pm \{2 \times \text{S.E.}[\hat{A}]\}.$$

Correction for the effects of non-response biases on Growth Indices.

It is not known what the expectations for Filings are for the random sample members that did not respond to the survey. It is possible that they are less optimistic than the responders, so their exclusion may lead to upwardly biased *Q-Indices*. A subset of the responders (to be termed the *quasi-responders*) provided information for Years 2001 (the Base Year) and 2002 only, and no information for either Years 2003 or 2004. If an assumption is made that the quasi-responders are equally pessimistic as the non-responders, then the effect of the non-response bias can be estimated. In this analysis the natural logarithmic transformation is used before calculating the *Q-Index*, as discussed in **Section V.2** and **Annex IV**. Following the approximation derived in **Annex IV**, it will be assumed here that $\text{Var}[Q'] = \text{Var}[\text{Log}(Q')]$.

The set of quasi-responders is slightly different wrt each question on European filings (*Euro-direct* vs. *Euro-PCT-IP* / *First Filings* vs. *Subsequent Filings*). From 599 responses, there were 141 that made no response at all to the questions for Years 2003 and 2004. This leaves 458 responders for Years 2003 and 2004, but some of these can not be included for a particular question because they did not answer for the Base Year. For example, for the 226 EPC residents that made responses regarding *Euro-direct First Filings*, there are only 142 that can be used for the comparison wrt Year 2002.

Table IX shows the results of the analysis of the quasi-responders, and a comparison with **Table IV** shows that the overall filing intentions for Year 2002 were more pessimistic than for the sampled group as a whole, although this does not hold for every primordial combination that contributes to the overall forecast. For example, for *EPC Residents* responses regarding *Euro-direct First Filings*, the *Q-Index* for the responders (Q'_{r2002}) was 0.9964 (S.E.[$\text{Log}(Q'_{r2002})$] = 0.0674), while the *Q-Index* for the quasi-responders (Q'_{qr2002}) was 0.9629 (S.E.[$\text{Log}(Q'_{qr2002})$] = 0.1487). A *non-response corrected Growth Index* ($Q'_{nrc2002}$) is given by

$$Q'_{nrc2002} = \frac{(Q'_{r2002} \times n^{\#}_{2002}) + (Q'_{qr2002} \times n^{*}_{2002})}{n^{\#}_{2002} + n^{*}_{2002}}$$

where $n^{\#}_{2002}$ is the number of responders, and n^{*}_{2002} is the number of applicants that were asked but did not respond. For present purposes, let the total number of Applicants considered ($n^{\#}_{2002} + n^{*}_{2002}$) be the number of *Applicants Established* as reported in **Table II**. Continuing the example of *EPC Residents* responses regarding *Euro-direct First Filings*, this gives

$$Q'_{nrc2002} = \frac{(0.9964 \times 142) + (0.9629 \times 596)}{142 + 596} = 0.9694$$

An approximate standard error is given by $\text{S.E.}[Q'_{nrc2002}] = \sqrt{\text{Var}[Q'_{nrc2002}]}$, where

Table IX. Applicant Panel 2002: Forecasts of EPO filings. Random Group.

Respondents who gave information for 2002 only.

Q Indices

Analysis using logarithmic transform of indices. Approximate confidence intervals

Assumption: All forecasts of combined totals made by combining primordial terms.

S.E. indicates Standard Error

LCL / UCL indicates Lower / Upper 95% Confidence Limit

Filings Type	Filing route	Bloc of origin	Year					
			2001		2002 (from those that did not report in 2003 or 2004)			
			Index	Actual "	Index		Predicted	Actual *
					Estimate	S.E.		
First	Euro-Direct	EPC	1	9.308	0,9629	0,1487	8 963	10.465
		Japan	1	244	1,0000	0,0000	244	222
		USA	1	1.236	0,9531	0,2298	1 178	1.150
		Others	1	470	1,0000	0,0000	470	542
		Total		11.258			10 855	12 379
		LCL (Total)					(8 030)	
		UCL (Total)					(13 680)	
	Euro-PCT-IP	EPC	1	2.165	0,7737	0,2466	1 675	
		Japan	1	1.008	0,9583	0,0947	966	
		USA	1	1.965	0,8540	0,2163	1 678	
		Others	1	1460	0,7500	0,0000	1 095	
		Total		6.598			5 414	
		LCL (Total)					(3 792)	
		UCL (Total)					(7 037)	
Subsequent	Euro-Direct	EPC	1	20.618	0,7339	0,2634	15 132	19.326
		Japan	1	13.921	1,2335	0,2907	17 172	11.569
		USA	1	9.411	0,9512	0,2785	8 952	8.501
		Others	1	1.652	1,0000	0,0000	1 652	2 029
		Total		45.602			42 908	41 425
		LCL (Total)					(18 493)	
		UCL (Total)					(67 323)	
	Euro-PCT-IP	EPC	1	37.601	0,9752	0,1411	36 668	
		Japan	1	9.436	1,0381	0,0268	9 795	
		USA	1	40.917	0,9740	0,1216	39 851	
		Others	1	9.762	1,0000	0,0000	9 762	
		Total		97.716			96 077	
		LCL (Total)					(80 889)	
		UCL (Total)					(111 264)	
All	Euro-Direct	EPC		29 926			24 095	29 791
		Japan		14 165			17 416	11 791
		USA		10 647			10 130	9 651
		Others		2 122			2 122	2 571
		Total		56 860			53 763	53 804
		LCL (Total)					(29 185)	
		UCL (Total)					(78 341)	
	Euro-PCT-IP	EPC		39 766			38 343	42 986
		Japan		10 444			10 761	11 946
		USA		42 882			41 529	44 146
		Others		11 222			10 857	12 238
		Total		104 314			101 491	111 316
		LCL (Total)					(86 216)	
		UCL (Total)					(116 765)	
	Total	EPC		69 692			62 439	72 777
		Japan		24 609			28 177	23 737
		USA		53 529			51 659	53 797
		Others		13 344			12 979	14 809
	Grand Total			161 174			155 254	165 120
	LCL (Grand Total)						(126 316)	
	UCL (Grand Total)						(184 191)	
	% Growth from Year 2001			0,0%			-3,7%	2,4%
	Implied % Euro-PCT-IP			64,7%			65,4%	67,4%

" Estimates made in January 2003

* Estimates made in March 2003.

$$\text{Var}[Q'_{\text{nrc}2002}] = \frac{(\text{Var}[Q'_{\text{r}2002}] \times n_{2002}^{\#}) + (\text{Var}[Q'_{\text{qr}2002}] \times n_{2002}^{*2})}{(n_{2002}^{\#} + n_{2002}^{*2})^2}$$

For the above example, this gives

$$\text{Var}[Q'_{\text{nrc}2002}] = \frac{(0.0674^2 \times 142^2) + (0.1487^2 \times 596^2)}{(142 + 596)^2} = 0.1208^2$$

Continuing now to present formulae together with the example for *EPC Residents First Filings*:- To correct the response index for Year 2003 (or Year 2004), it will be assumed that a *Correction Factor* for the effect of non-response should be given as

$$Q'_{\text{qr}2002} / Q'_{\text{r}2002} = 0.9629 / 0.9964 = 0.9664.$$

The growth index estimate for Year 2003¹ is then modelled as

$$Q'_{\text{nrc}2003} = \frac{(Q'_{\text{r}2003} \times n_{2003}^{\#}) + ((Q'_{\text{qr}2002} / Q'_{\text{r}2002}) \times Q'_{\text{r}2003} \times n_{2003}^{*})}{n_{2003}^{\#} + n_{2003}^{*}} = \frac{(1.0850 \times 116) + (0.9664 \times 1.0850 \times 622)}{738} = 1.0543$$

The standard error for $Q'_{\text{nrc}2003}$ is given by $\text{S.E.}[Q'_{\text{nrc}2003}] = \sqrt{\text{Var}[Q'_{\text{nrc}2003}]}$, where

$$\begin{aligned} \text{Var}[Q'_{\text{nrc}2003}] &= \\ &= \frac{(\text{Var}[Q'_{\text{r}2003}] \times n_{2003}^{\#2}) + ((Q'_{\text{qr}2002} / Q'_{\text{r}2002})^2 \times \text{Var}[Q'_{\text{r}2003}] \times n_{2003}^{*2})}{(n_{2003}^{\#} + n_{2003}^{*})^2} = \\ &= \frac{(0.0763^2 \times 116^2) + (0.9664^2 \times 0.0763^2 \times 622^2)}{738^2} = 0.0633^2 \end{aligned}$$

This quantity may be a slight under-estimate because it takes no account of the variability of the *Correction Factor* ($Q'_{\text{qr}2002} / Q'_{\text{r}2002}$).

The results obtained using this approach are given in **Table V** and **Fig. 3** of the main report. The above analysis gives an indication of an approximate method for compensating for non-response, but it is of course possible that the method can be further refined in the future.

¹ A similar expression can be written for $Q'_{\text{nrc}2004}$, using the same Correction Factor.

Plausibility Checks and Interpretation Rules

Plausibility Checks

To ensure that the answers given to **Section B** of the Questionnaire ([Annex VII](#)) were logical and consistent, a number of plausibility rules were set up. Firstly the *Worldwide Total First Filings (I)* was compared to the sum of the *First Filings* reported for *Euro-direct: Patent applications under the EPC (excluding PCT) (a)*, *Patent applications under the PCT (b)* and the *National applications (g), (h), (i), (j) and (k)*. Secondly the numbers in any cell under *Subsequent filings* should be comparable (say not more than double) the number under *Worldwide Total First Filings (I)* for the previous year.

Interpretation Rules for the Integration of Answers in the Electronic Data Base

A set of rules was developed, together with the consultant, to ensure that the answers given to the questions were correctly transcribed and interpreted in the electronic data base. In cases where percentage Growth Rates were given instead of real figures, a method was given for converting these into equivalent filings figures on which the analyses could be based. Rules were given concerning the interpretation of zero, to ensure correct interpretation where zero is given either as a figure or an indicator of no change compared to the Base Year. Finally, it was specified that *Combined Filings* counts should only be given where real data (0 or higher) was given by the respondent for all underlying primordial filing types in the combination.



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Questionnaire

for Applicant Panel Survey on Patent Filings

A. Company Details

Should the information given above on your company details be incorrect, please provide us with corrected information below:

Contact Name:

Phone Number:

E-mail-Address:

Organisation Name:

Organisation Address:

If you or your company is a branch or subsidiary of another organisation, please complete the questionnaire for your part of the organisation only.

Should you nevertheless decide to submit information on related companies registered under one or more other names and addresses, please indicate them below:

Organisation Name:

Organisation Address:

Organisation Name:

Organisation Address:

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B. Estimation of levels of patenting activity

• Numbers of first and subsequent filings

Please indicate the numbers of **first filings** (priority forming) and **subsequent filings** (claiming priority of an earlier application) with break downs by patent types and countries, that you filed last year and that you expect to file in present and future years.

Only if you are unable to give actual figures, please indicate anticipated yearly growth rates as percentages (i.e. 2002 compared with 2001; 2003 compared with 2002; 2004 compared with 2003).

		Filed		Expected		Expected		Expected	
		2001		2002		2003		2004	
		First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings
Patent applications under the EPC (excluding PCT) (a)									
Patent applications under the PCT (b)									
of which	Designating EPO (c)								
	Designating USA (d)								
	Designating Japan (e)								
	Designating Germany (f)								
National applications (excluding PCT) in	Germany (g)								
	United Kingdom (h)								
	France (i)								
	Japan (j)								
	United States ² (k)								
Worldwide Total ³ (l)									

¹ A first filing is a patent application that, according to the Paris Convention for the Protection of Industrial Property, confers a right of priority for a period of twelve months for the purpose of filing patent applications in other countries or systems, in respect of the same invention.

² Including provisional filings under the columns for first filings.

³ Worldwide Total for first filings in row (l) should be the sum of all your first filings, and will therefore be at least as great as the sum of first filings that you have reported above, given in rows (a) to (k), but **excluding** designations in rows (c), (d), (e) and (f).

Do you have any specific comments to make regarding the above section B of the questionnaire?

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C. Your activities in the various main sectors of research and development.

	Please indicate the approximate size of your R&D budget in each area mentioned below (in your national currency).		Please, if possible, indicate the percentage of your R&D budget in each of the below mentioned areas for 2001 in the pre-patent application phase of your work.	Please indicate the number of first filings made in each of the below mentioned areas in 2001.
	Actual 2001	Expected 2002		
1. Agriculture				
2. Foodstuffs; tobacco				
3. Personal or domestic articles				
4. Health				
5. Amusement				
6. Preparations for medical, dental or toilet purposes				
7. Separating; mixing				
8. Shaping				
9. Printing				
10. Transporting				
11. Inorganic chemistry				
12. Organic chemistry				
13. Organic macromolecular compounds				
14. Dyes, petroleum, animal and vegetable oils				
15. Fermentation, sugar, skins				
16. Metallurgy				
17. Textiles or flexible materials				
18. Paper				
19. Building				
20. Earth drilling; mining				
21. Machines or pumps				
22. Engineering in general				
23. Lighting; heating				
24. Weapons; blasting				
25. Instruments				
26. Nucleonics				
27. Electricity				
28. Electronics and electric communication technique				
29. Others, please specify: _____				
Total				

Do you have any specific comments to make regarding the above section C of the questionnaire?

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D. General comments and results of the survey

Please comment further on general matters arising from this questionnaire. Use a separate sheet for extended comments.

A short summary of the results of the survey will be published on the Web in early 2003 under www.european-patent-office.org/aps/. We will remind you of this if you leave your E-mail address under Section A of this questionnaire.