REPORT

WIPO Survey on Patenting Strategies in 2009 and 2010

"To better understand how users of the PCT System responded to the difficult economic conditions in 2009 and how they may respond to the incipient economic recovery in 2010."

Economics and Statistics Division
World Intellectual Property Organization (WIPO)
January 2011

Executive summary:

The Economics and Statistics Division of the World Intellectual Property Organization (WIPO) designed a survey in June 2010 to better understand how users of the Patent Cooperation Treaty (PCT) system responded to the difficult economic conditions in 2009 and how they may respond to the incipient economic recovery in 2010. Questions addressed to PCT users required their assessment of: 1) Changes in their PCT filings, their patent filings at the home patent offices and relevant regional offices, and their changes in their direct patent filings abroad through the Paris Convention route[1], 2) Changes in their IP expenditures and underlying reasons, and 3) Changes in their R&D expenditures and underlying reasons, all for 2009 and 2010

The survey was based on a short online web instrument in six languages. The survey invitation was sent to the top 5,000 PCT applicants of which at least one email address was available, amounting to 1,400 entities. The response rate was 17 percent, with 22 to 65 responses each from the Republic of Korea, the Europe, Japan, and the United States of America (US) and three responses from China (out of 11 Chinese entities surveyed). The findings are based on the analysis of matched and weighted responses using 2009 actual PCT filings of applicants.

The survey revealed greater optimism for filings under the PCT in 2010 as compared to 2009, driven by the projected faster growth rates of PCT filings from Japan and the Republic of Korea in 2010 as compared to 2009, but more modest increases in the growth rates in Europe and unchanged or declining ones in filings under the PCT in the US over the same period. Similarly, respondents worldwide anticipate an increase in the growth rates of home filings and filings abroad in 2010. Respondents also suggest that their growth rates of IP filing and maintenance expenditures as well as their R&D expenditures would increase in 2010 as compared to 2009.

At the country level, the respondents from the US expect some increases in the growth rates of home filings in 2010 but anticipate no changes in the growth rates for filings abroad as compared to 2009. In Europe, respondents foresee increases in the growth rates of both home filings and filings abroad in 2010. Interestingly, respondents from Japan anticipate increases in the growth rates of PCT and home filings in 2010 (as compared to 2009), but declines in the growth rates of filings abroad. This is in contrast to respondents from the Republic of Korea where answers indicate a decline in the growth rates of home filings but an increase in the growth rates of filings abroad, again comparing 2009 to 2010.

[1] To improve readability, in the remainder of the document "direct patent filings abroad through the Paris Convention route" are referred to as "direct patent filings abroad".

Survey responses from the US suggest no change in the growth rates of expenditures for filings and maintaining patents between 2009 and 2010. In Europe, however, respondents anticipate that the growth rates of expenditures for filing and maintaining patents will increase in 2010. Similarly, respondents from Japan and the Republic of Korea suggest an increase in the growth rates of expenditures for filing and maintaining patents in 2010.

The reasons attributed to the declines in expenditures for filing and maintaining patents vary across countries. In fact, 30% of respondents from the US and 30% of respondents from Europe in 2010 indicate that the declines in expenditures for filing and maintaining patents have to do with budgetary decisions unrelated to the management of patent rights (e.g., organization-wide budget cuts, which had to be shared equally across all departments). However, in both Japan and the Republic of Korea, respondents emphasize a re-assessment of likely returns to acquiring and maintaining patent rights, in light of the uncertain economic environment associated with the global financial crisis in 2009 and 2010.

A breakdown by industry reveals that, when comparing 2010 to 2009, respondents of the pharmaceutical industry are optimistic and expect small increases in the growth rates of PCT filings and also for filings at home, but large increases in the growth rates of filings abroad. The biotechnology industry expects increases in the growth rates of PCT filings but the growth rates in home filings and filings abroad are anticipated to remain constant between 2009 and 2010. The chemical industry is expecting an increase in the growth rates of PCT filings compared to 2009, a decrease in the growth rates of filings abroad, and an increase in the growth rates of filings at home.

The information technology (IT) industry anticipates the growth rates of PCT filings to remain unchanged in 2010, slight increases in the growth rates of home filings and unchanged growth rates of filings abroad. Respondents of the energy industry signal no changes in the growth rates of PCT filings and filings abroad in 2010, but they expect small increases in the growth rates of home filings as compared to 2009. Finally, respondents from the machinery and equipment industry expect some increases in the growth rates of PCT filings in 2010 as compared to 2009, while expecting the growth rates in home filings and filings abroad to remain constant.

Interestingly, the reasons inducing a decline in expenditures for filing and maintaining patents vary between 2009 and 2010. Focusing on the most interesting results, the pharmaceutical industry considers that the declines in IP expenditures primarily reflect longer-term business strategy. This explanation was not or hardly featured in the case of the biotechnology, the chemical (except to some minor extent for declines in 2010), the IT or the energy industry. Only some respondents from the machinery and equipment industry cite this reason.

In turn, both the biotechnology and the chemical industry respondents argue that a reassessment of likely returns resulting from the acquisition and maintenance of patent rights is the primary reason for the decline in their IP expenditures. This cause for a decline in IP expenditures was also cited frequently by the IT industry.

However, for the IT industry budgetary decision unrelated to the management of patent rights are the primary reason for IP expenditure declines, seemingly reflecting the necessity to cut costs vigorously in response to the economic cycle. Respondents from the energy and the machinery and equipment industry who experienced declines in IP expenditures also cite overall budget reasons as the main cause. While overall budgetary reasons are not the main consideration in the case of the pharmaceutical industry, this reason comes second, and turns out to be more significant in 2010.

Contrary to initial expectations, insufficient cash flow was not cited as important reason for the declines in any industry, except to some more minor extent by respondents from the biotechnology (in 2010), the IT and the machinery and equipment industry. Lack of access to credit only seems to have been a minor issue in the case of the IT industry, but not in other industries.

The survey instrument allowed respondents to provide additional, written comments about their patent filing behavior. Partly, these comments indicate the resilience of companies' IP and R&D strategies in face of the crisis, underlining the central role that IP plays in overall business strategy. A number of other comments relate to firm strategies seeking greater efficiencies with respect to their patent filings. These firms are eager to cut the cost of patent filings, in particular costs relating to outside intellectual property law firms. Other company comments hint either at a more conservative stance towards filings abroad or towards a geographic re-orientation of these patent filings, i.e. (away from Europe to the US, Asia (outside Japan) and new markets more generally, for instance).

Acknowledgements

The Economics and Statistics Division of WIPO would like to thank the users of the PCT system for taking the time to respond to the questionnaire. The help of the Korean Intellectual Property Office (KIPO) and the Japan Patent Office (JPO) is gratefully acknowledged.

The support of colleagues from the Economics and Statistics Division, in particular Hao Zhou and Samiah Do Carmo Figueiredo, and from the Innovation and Technology Sector, in particular the respective PCT Divisions, is gratefully acknowledged. Finally, the conduct of the survey benefitted greatly from the technical support of Dawood Bhunnoo and the support from translators.

The survey and the analysis have been conducted by Donatus Ayitey and Sacha Wunsch-Vincent, with substantive input from Carsten Fink (Chief Economist), all in the Economics and Statistics Division of WIPO. Authors can be contacted at chief.economist@wipo.int.

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Introduction

Objective of the survey

The Economics and Statistics Division of WIPO designed a survey in June 2010 to better understand how users of the PCT system responded to the difficult economic conditions in 2009 and how they may respond to the incipient economic recovery in 2010.

Survey questions addressed to PCT users required their assessment of: 1) Changes in their levels of PCT filings, their patent filings at the home patent offices and relevant regional offices, and changes in levels in direct patent filings abroad through the Paris Convention route (henceforth: direct patent filings abroad), 2) Changes in their IP expenditures and underlying reasons, and 3) Changes in their R&D expenditures and underlying reasons, all for 2009 and 2010.

Organization of the report

The report is organized in five main parts. Following this introduction, Part I describes the survey methodology, including its design and its implementation. It also describes how the responses were matched and weighted. Part II focuses on global trends and the global outlook for 2010. Part III describes the findings covering country trends and the outlook for 2010. Part IV analyzes six selected industries, namely, biotechnology, chemicals, information technology (IT), pharmaceuticals, energy as well as machinery and equipment. Part V summarizes additional written comments from the respondents.

The survey findings are compiled as follows:

1. The world findings include all the weighted responses across all countries in the sample (Australia, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Israel, Italy, Japan, Liechtenstein, Mexico, New Zealand, Norway, the Republic of Korea, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the US).

2. The country findings for countries or regions are presented for the US, Europe (*Belgium, Denmark, Finland, France, Germany, Italy, Liechtenstein, Netherlands, Norway, Spain, Sweden, Switzerland, Turkey and the United Kingdom*), Japan and the Republic of Korea. Countries not analyzed separately due to low levels of responses are Australia, Brazil, Canada, China, India, Israel, Mexico, New Zealand and South Africa.

3. Sector findings are presented for six industries, namely the biotechnology, chemicals, energy, IT (hardware), machinery and equipment, and pharmaceuticals. Industries not analyzed separately due to low levels of responses are services, transport, agriculture, construction, food, IT (software and services), measurement and testing equipment/instruments, and medical equipment/instruments.

Part I: Methodology

Survey design and implementation

To maximize the number of responses, the survey instrument was kept short and simple (see Appendix A for a full copy of the questionnaire). To start with, respondents were asked to indicate their patenting activities in 2009 and 2010 across three categories, namely their filings under the PCT system, their filings at home, and their filings abroad. The second set of questions concerned the entities' expenditures for filing and maintaining patents (henceforth also referred to as IP expenditures), as well as reasons for any possible declines in these expenditures witnessed in 2009 and 2010. Finally, respondents were asked to indicate changes in their R&D expenditures for both years, while indicating the reasons for possible declines.

The survey was conducted over a time span of two months, namely July and August 2010. An invitation to fill out the online questionnaire was sent in six languages (English, French, Spanish, Chinese, Korean and Japanese) to a sample of the top 5,000 PCT applicants of which at least one email address was available, amounting to 1,400 entities. The stratification was by location, capturing companies across five continents, as well as firm size, industry and other company details. E-mails were sent to remind users to complete the questionnaire, alerting them of the deadline. Respondents were guaranteed anonymity.

Table 1: Responses and response rates

Country/ Region	No. of contacts	No. of valid responses (N)	Response rate (percent)
US	526	64	12
Europe	386	65	17
Japan	92	22	24
Republic of Korea	76	35	46
China	11	3	27
Others	101	15	15
Total	**1192**	**204**	**17**

A total of 204 valid responses were received towards the end of the two-month survey period (Table 1). This implies an overall response rate of 17 percent, with good participation from the countries using the PCT most intensively, namely the Republic of Korea, European countries, Japan, and the US and, to a lesser extent, China. The relatively large response rates for the Republic of Korea and Japan were obtained thanks to help by the Korean Intellectual Property Office (KIPO) and the Japan Patent Office (JPO), respectively.

Matching and weighting of the sample

Given substantial variations in filing numbers among applicants, different weights were applied to the survey responses. In particular, the actual 2009 PCT filings of responding entities were identified and used to weigh an applicant's survey response (i.e. the response of an applicant more heavily using the PCT system received a relatively larger weight than smaller PCT filers). The downside of this matching and weighting approach is that it leads to a reduced sample size, as some entities could not be matched for various reasons. As a result, the 204 valid responses were reduced to 139 in the matched sample (Table 2).

Table 2: Matched and unmatched samples

		Full-unmatched sample	Matched sample
GROUP	Unit	Sample size (N)	Sample size (N)
World	World	204	139
Country	US	64	44
	Europe	65	47
	Japan	22	17
	Republic of Korea	32	23
	Others	21	8
Industry	Biotechnology	17	12
	Chemicals	27	20
	IT: hardware	31	22
	Pharmaceutical	18	15
	Energy	8	6
	Machinery and equipment	37	24
	Others	66	32

The 2009 PCT weights were also applied to the other two types of patent filings (patent filings at the home or regional office and direct filings abroad) as well as to IP and R&D expenditure. As applicants' PCT filing level is not necessarily "proportional" to the levels for the other variables, this approach may introduce certain distortions. However, in the absence of entity-level information on actual filing levels for home filings, filings abroad, IP expenditure, and R&D expenditure, it was preferred to use PCT weights, rather than no weights at all. In addition, large variations in actual level of PCT filings across entities in our sample seem largely explained by differences in firm size, which are bound to also determine the level of the other variables.

Note that PCT weights were used when calculating overall changes in patent filing levels as well as IP and R&D expenditures. Survey results with regard to the reasons for declining IP and R&D expenditures are based on un-matched and un-weighted survey responses.

Averaging and aggregate growth rates

The survey instruments asked PCT users for percentage changes in their patenting levels for 2009 and 2010, whereby respondents were presented with eight different growth/decline categories: 1) growth by more than 20%, 2) growth by 10-20%, 3) growth by 2-10%, 4) largely unchanged (between -2% and +2%), 5) decline by 2-10%, 6) decline by 10-20%, 7) decline by more than 20 %, and 8) Don't know, not applicable, or too early to tell. This category approach was adopted to entice a greater number of responses, partly in light of the fact that changes in 2010 filing levels were still uncertain at the time of completion of the survey.

Appendices B, C, and D present the weighted distribution of responses by category at the global, country, and industry level, respectively. To discern aggregate trends at these three levels, applicant responses were averaged using the actual average percentage changes of 2009 PCT filings in the categories listed above. These (weighted) average growth rates are presented in the subsequent sections (in particular, Figures 1, 4, and 7).

The above averaging exercise assumes similar average percentage changes in the growth categories in the two survey years and, since average percentage changes of PCT filings are also applied to home filings, filings abroad, IP expenditure, and R&D expenditure, similar average percentage changes across the different variables. Especially the latter assumption is somewhat crude and the absolute values of average growth rates presented should therefore be interpreted with due caution. However, analyzing the direction of change in average growth rates from 2009 to 2010 is meaningful, as any change is entirely due to individual respondents indicating a different growth category in 2009 versus 2010. Accordingly, the discussion of the survey findings will focus on the 2009 versus 2010 comparison of average growth rates, rather than the magnitude of these growth rates.

PART II: Global findings

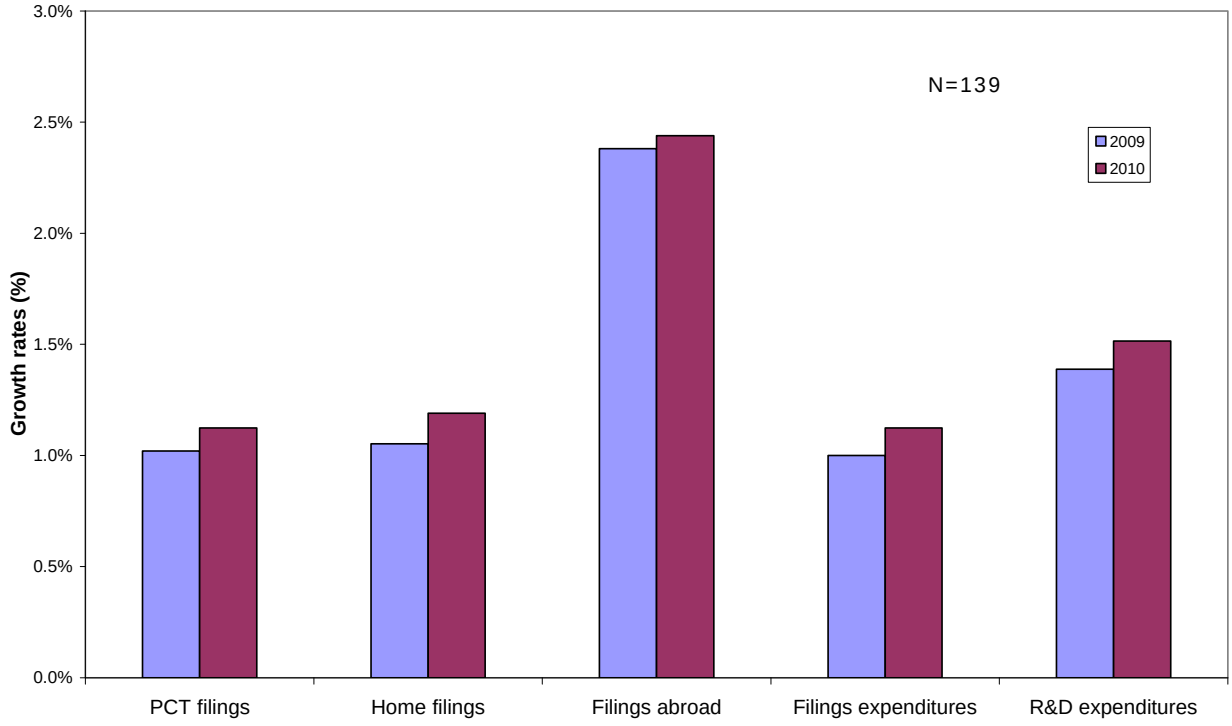
Global trends and outlook for 2010

In this section, the survey results are presented for the whole world.

World: Summary

Figure 1 which is based on weighted survey responses shows that the global trend in growth rates of all the five indicators (PCT filings, home filings, filings abroad, IP filing and R&D expenditures) is positive, i.e. reflecting a more optimistic outlook in 2010 compared to 2009 (see Appendix B for global trends of growth rates by growth category).

Figure 1: World - General outlook of 2010 compared to 2009 (in percent)



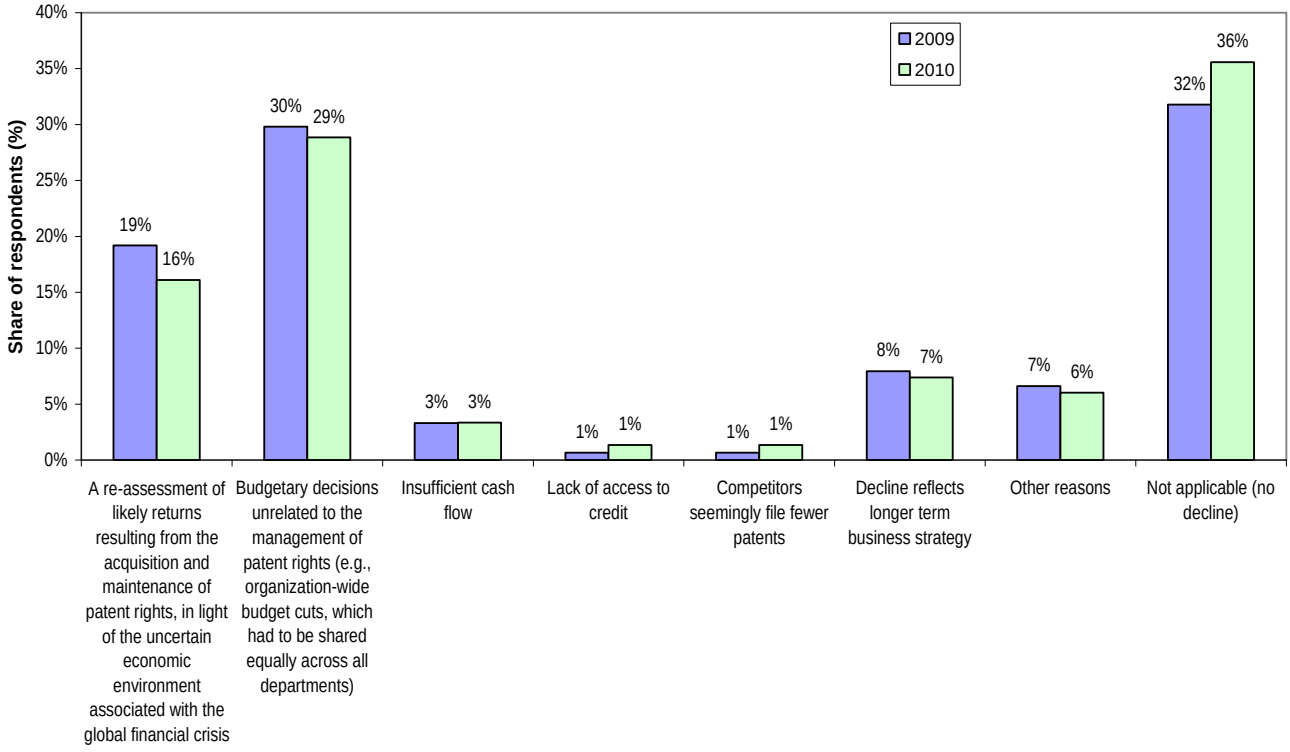
Note: Figure 1 is based on weighted survey responses.

World: Reasons for the declines in expenditures for filing and maintaining patents

As shown in Figure 2 based on un-weighted responses (N=203), respondents that actually experienced a decline in IP expenditures attribute this decline to budgetary decisions unrelated to the management of patent rights (e.g., organization-wide budget cuts, which had to be shared equally across all departments) (30% in 2009 and 29% in 2010). A substantial share of the same respondents (19% in 2009 and 16% in 2010) attribute the changes to a re-assessment of likely returns to acquiring and maintaining patent rights, in light of the uncertain economic environment associated with the global financial crisis. Other respondents (8% in 2009 and 7% in 2010) suggest that the declines in expenditures for filing and maintaining patents reflect longer-term business strategy. Only 3% of respondents in 2010 indicate that the declines in expenditures for filing and maintaining patents are due to insufficient cash flow and only 1% of respondents in 2009 and 2010 attribute the declines to lack of access to credit and competitors seemingly filing fewer patents.

A relatively large share of respondents has seemingly not experienced declines in expenditures for filing and maintaining patents in 2009 or in 2010, and has thus opted for the reply "Not applicable".

Figure 2: World - Reasons for decline in expenditures for filing and maintaining patents for 2009 and 2010 (in percent)



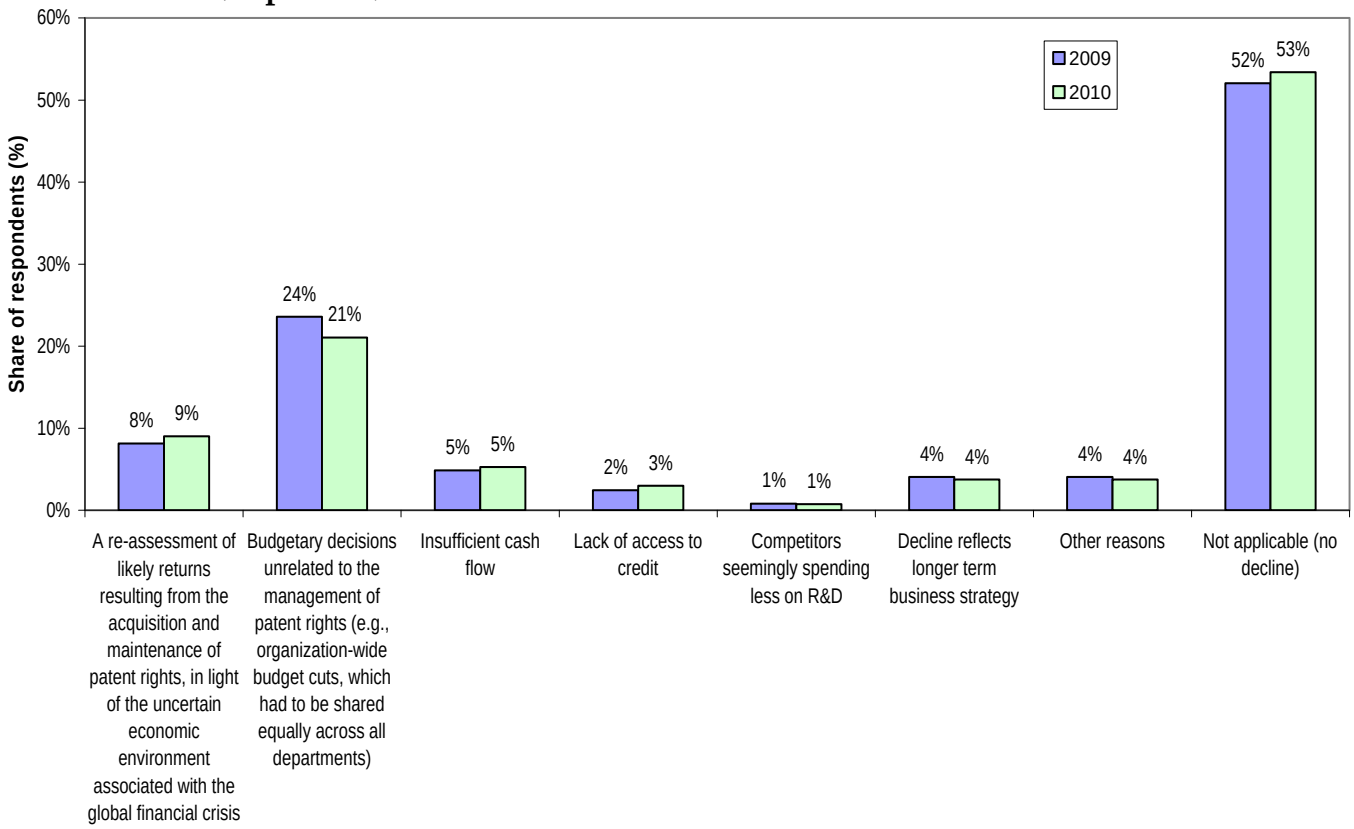
Note: Figure 2 is based on un-weighted survey responses (N=203).

World: Reasons for the declines in R&D expenditures

Respondents who indicated that their R&D expenditures declined between 2009 and 2010 cited budgetary decisions unrelated to the management of patent rights as primary reason. A re-assessment of likely returns to acquiring and maintaining patent rights is cited by 8% of respondents in 2009 and 9% of respondents in 2010 as a cause for declines in R&D expenditures. Whilst insufficient cash flow is cited by 5% of the respondents in 2009 as being responsible for declines in R&D expenditures, 4% of respondents in 2010 attribute declines to longer-term business strategy. Interestingly, only 2% of respondents in 2009 cite lack of access to credit as the source of declines of R&D expenditures.

A significant number of respondents did not experience declines in R&D expenditures and hence opts for the response "not applicable".

Figure 3: World - Reasons for declines in R&D expenditures for 2009 and 2010 (in percent)



Note: Figure 3 is based on un-weighted responses (N=203).

PART III: Country findings

Country trends and outlook for 2010

In this section, survey results are presented for countries and country groupings.

Country: Summary

At the country level, a mixed picture emerges (see Figure 4 based on weighted responses) when comparing 2010 to 2009 growth rates. Respondents from the US anticipate a slight decline in growth rates of PCT filings between 2009 and 2010. On the contrary, respondents from Europe suggest growth rates of PCT filings and growth rates of R&D expenditures would be higher in 2010. Respondents from Japan and the Republic of Korea also expect some increases in growth rates of their PCT filings, as compared to 2009. They also signal a decline in growth rates of R&D expenditures for Japan and an increase in the growth rates in the case of the Republic of Korea between 2009 and 2010. See Appendix C for more information on country trends of growth rates by growth category.

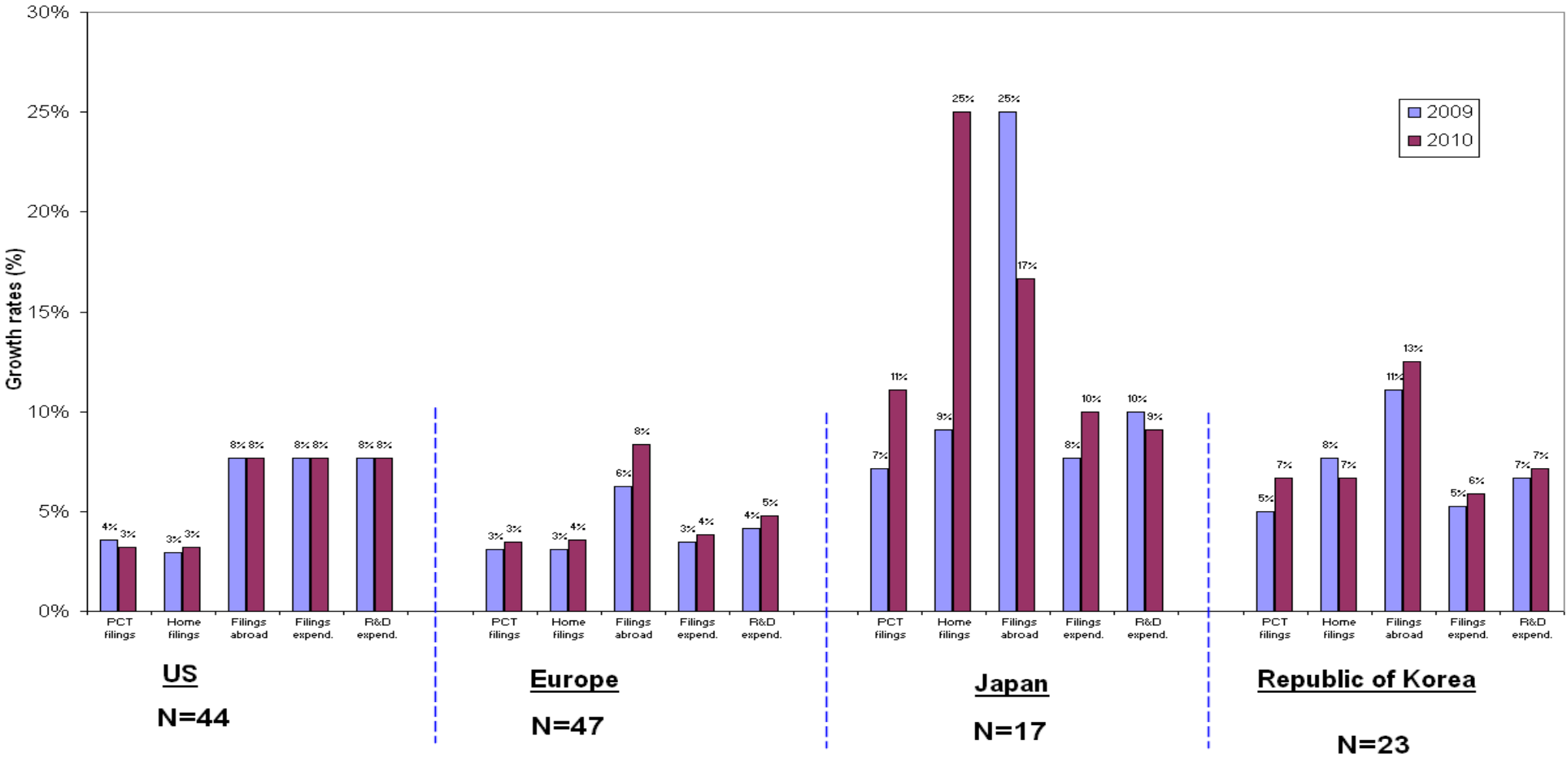
Reasons for the declines in IP filing and maintenance expenditures

Country: Summary

United States of America and Europe (Figure 5): In 2009 and 2010, around 30% of the respondents in the US and in Europe to which this question is applicable cite budgetary decisions unrelated to the management of patent rights as main reason for their declining IP filing and maintenance expenditure (see Figure 5 based on unweighted responses). Furthermore, 13% of respondents of the US and 18% of Europe attribute their declining IP expenditures to a re-assessment of likely returns from acquiring and maintaining patent rights. Nine percent of US respondents and 10% of European respondents suggest that their declines in IP filing expenditures reflect longer-term business strategy. Interestingly, only 8% of US respondents and 5% of European respondents claim that the reduction in IP filing expenditures can be attributed to insufficient cash flow.

A significant share of respondents has not reduced IP filing and maintenance expenditures and has consequently indicated that the reasons listed in the questionnaire do not apply to them (Figure 5), explaining the relatively large percentages for this reply.

Figure 4: Country - General outlook of 2010 compared to 2009 (in percent)



Note: Figure 4 is based on weighted survey responses.

Japan and the Republic of Korea (Figure 5): In contrast, respondents in both Japan and the Republic of Korea to which this question is applicable place greater emphasis on a re-assessment of likely returns to acquiring and maintaining patent rights, in light of the uncertain economic environment. More respondents in Japan (50% in 2009 and 31% in 2010) compared to the Republic of Korea (28% in 2009 and 17% in 2010) attribute the declines in IP expenditures to a re-assessment of likely returns from acquiring and maintaining patent rights. Quite a sizable share of respondents from Japan (17%) explains that the declines in IP expenditures in 2010 reflect longer-term business strategy.

A significant share of respondents from the Republic of Korea and from Japan has not reduced IP filing and maintenance expenditures. They have thus indicated that the reasons listed in the questionnaire do not apply to them, explaining the relatively large percentages for this reply (Figure 5).

Reasons for the declines in R&D expenditures

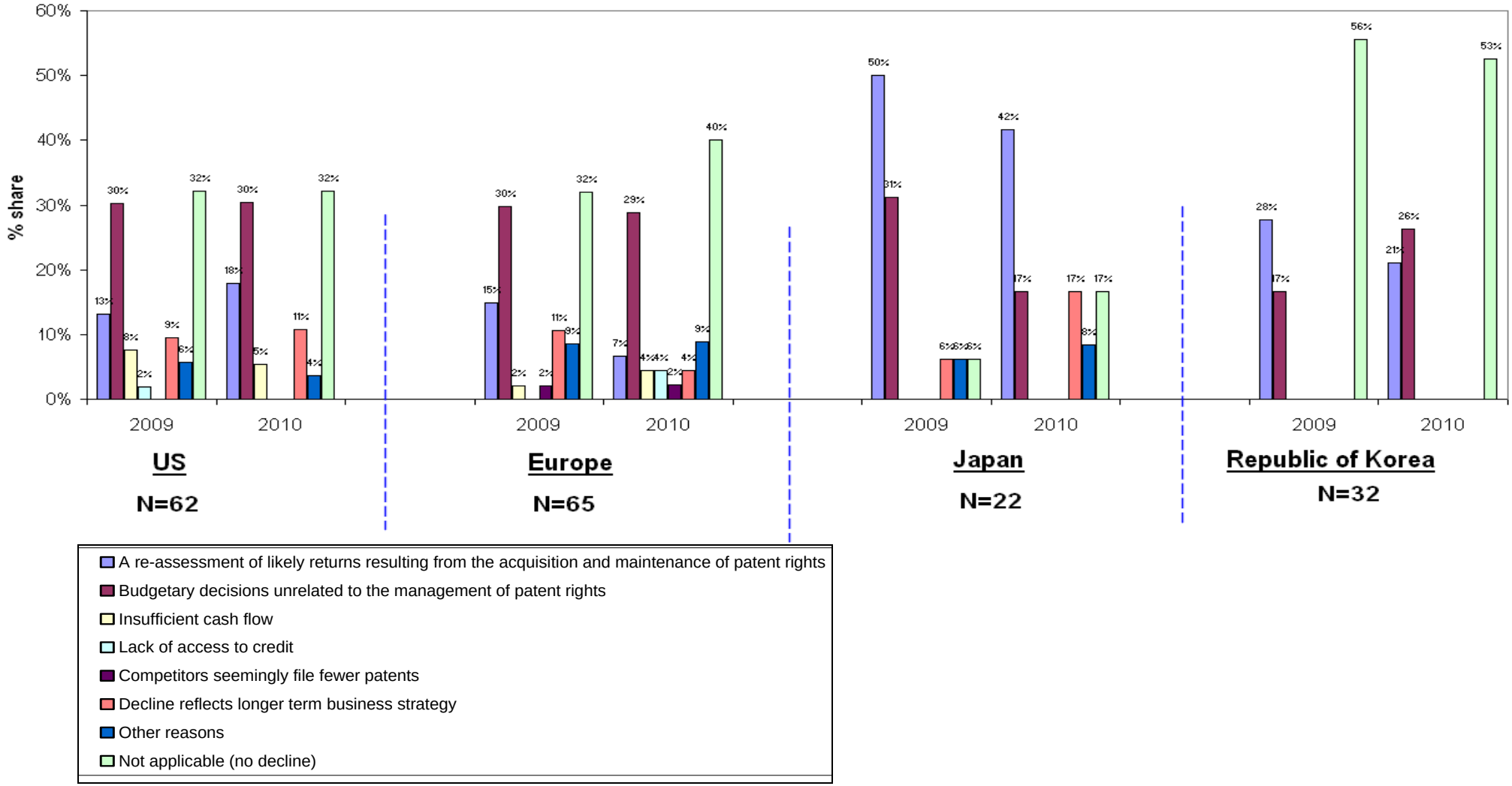
Country: Summary

Respondents in all countries to which this question is applicable cite 1) budgetary decisions unrelated to the management of patent rights and 2) a re-assessment of likely returns resulting from the acquisition and maintenance of patent rights as impacting their R&D expenditures in 2009 and 2010. Yet, there are important country differences. Respondents in Europe to which this question is applicable seem to emphasize insufficient cash flow and lack of access to credit as causes for the declines in their R&D spending. Respondents from Japan and Europe also indicate that the declines in R&D spending reflect longer-term business strategy. Their counterparts in the US and the Republic of Korea seem relatively less affected by the impacts of longer-term business strategy on R&D spending.

Again a significant share of respondents – mainly from the US, Europe and the Republic of Korea - has most likely not reduced R&D expenditures and has consequently indicated that the reasons listed in the questionnaire do not apply to them (Figure 6).

United States of America and Europe (Figure 6): Respondents from the US (26% in 2010) and from Europe (14% in 2010) to which this question is applicable attribute the declines in R&D expenditures to budgetary decisions unrelated to the management of patent rights. However, to a lesser extent, insufficient cash flow, lack of access to credit, longer term business strategy and a re-assessment of likely returns to acquiring and maintaining patent rights are also cited to explain declines in R&D spending.

Figure 5: Country- Reasons for the declines in IP filing and maintenance expenditures in 2009 and 2010 (in percent)



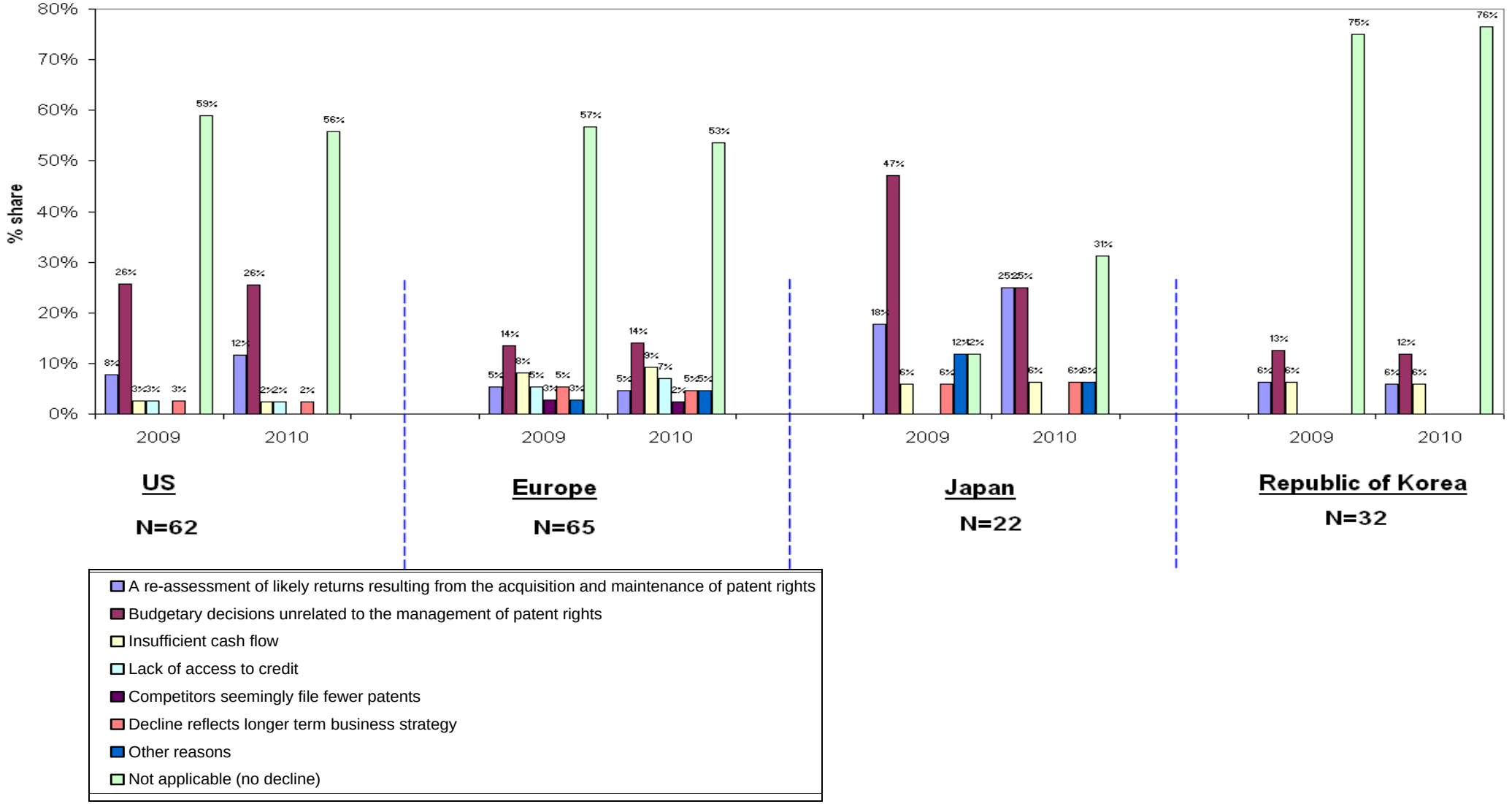
Note: Figure 5 is based on un-weighted responses.

Japan and the Republic of Korea (Figure 6): Respondents from Japan (25% in 2010) and the Republic of Korea (12% in 2010) to which this question is applicable indicate that the declines in R&D expenditures are due to budgetary decisions unrelated to the management of patent rights. Respondents from the Republic of Korea (75% in 2009 and 76% in 2010), who probably have not been affected by the declines in growth rates of R&D spending, indicate that the reasons listed in the questionnaire are not applicable to them.

Whilst the largest share of respondents from Japan and the Republic of Korea cite a re-assessment of likely returns resulting from the acquisition and maintenance of patent rights as major reason causing declines in R&D expenditures in 2009 and 2010, the largest share of respondents from these two countries attribute the declines in R&D expenditures to budgetary decisions unrelated to the management of patent rights (Figure 6).

Again a relatively high share of respondents has not experienced related declines.

Figure 6: Country - Reasons for decline in R&D expenditures in 2009 and 2010 (in percent)



Note: Figure 6 is based on un-weighted responses.

PART IV: Sector findings

Sector trends and outlook for 2010

In this section, survey results are presented for certain sectors, namely the biotechnology, chemical, IT (hardware), pharmaceutical, energy and machinery and equipment industries.

Industry: Summary

Respondents from the chemical, IT and energy industries suggest that their 2010 growth rates in PCT filings would be largely unchanged from their 2009 filings (see Figure 7 based on weighted responses). However respondents of the following industries expect some increases in growth rates of PCT filings in 2010 compared to 2009 (in decreasing order of expected PCT filing growth rate): machinery and equipment, biotechnology and the pharmaceutical industries.

These trends are different for the other types of patent filings. Specifically, respondents from the biotechnology industry suggest that their growth rates in home filings and filings abroad are likely to remain constant between 2009 and 2010. Respondents from the chemical industry expect the growth rates in PCT filings in 2010 to remain unchanged. They also expect some increase in growth rates of home filings and decreases in growth rates of filings abroad (all 2010 as compared to 2009).

Respondents from the IT industry anticipate unchanged growth rates of PCT filings 2010, a slight increase in growth rates of home filings and an unchanged growth rate of filings abroad.

In the pharmaceutical industry, respondents are more optimistic and expect some small increases in growth rates of PCT filings and home filings but a large increase in the growth rate of filings abroad. The few respondents representing the energy industry (N=6) signal no changes in the growth rates of PCT filings and filings abroad in 2010 but expect small increases in the growth rates of home filings (all 2010 as compared to 2009). The respondents from the machinery and equipment industry (N=24) expect an increase in the growth rate of PCT filings in 2010 while suggesting that the rate at which they file at home and abroad would remain unchanged (Figure 7).

In 2010, respondents from the biotechnology, IT, pharmaceutical, energy, and machinery and equipment industries all expect some increases in growth rates of expenditures for filing and maintaining patents. This holds true except for the chemical industry where respondents anticipate decreases in growth rates of patent filing expenditures. For R&D expenditures, respondents from the IT, the pharmaceutical and the energy industries signal increases in growth rates of their R&D expenditures, whereas for the biotechnology and chemical industries, respondents suggest that their R&D expenditures would grow more slowly in 2010 than in 2009 (Figure 7). See Appendix C for sector trends of growth rates by growth category.

Industry: Reasons for the declines in expenditures for filing and maintaining patents

The reasons inducing a decline in expenditures for filing and maintaining patents vary across industries (see Figure 8 based on un-weighted responses).

Focusing on the most interesting results, the pharmaceutical industry considers that the declines in IP expenditures primarily reflect longer-term business strategy (31% in 2009 and 23% in 2010). This explanation was not or hardly featured in the case of the biotechnology, the chemical (except to some minor extent for declines in 2010), the IT or the energy industries. Only some respondents from the machinery and equipment industry cite this as reason for declines (10% in 2009 and 15% in 2010).

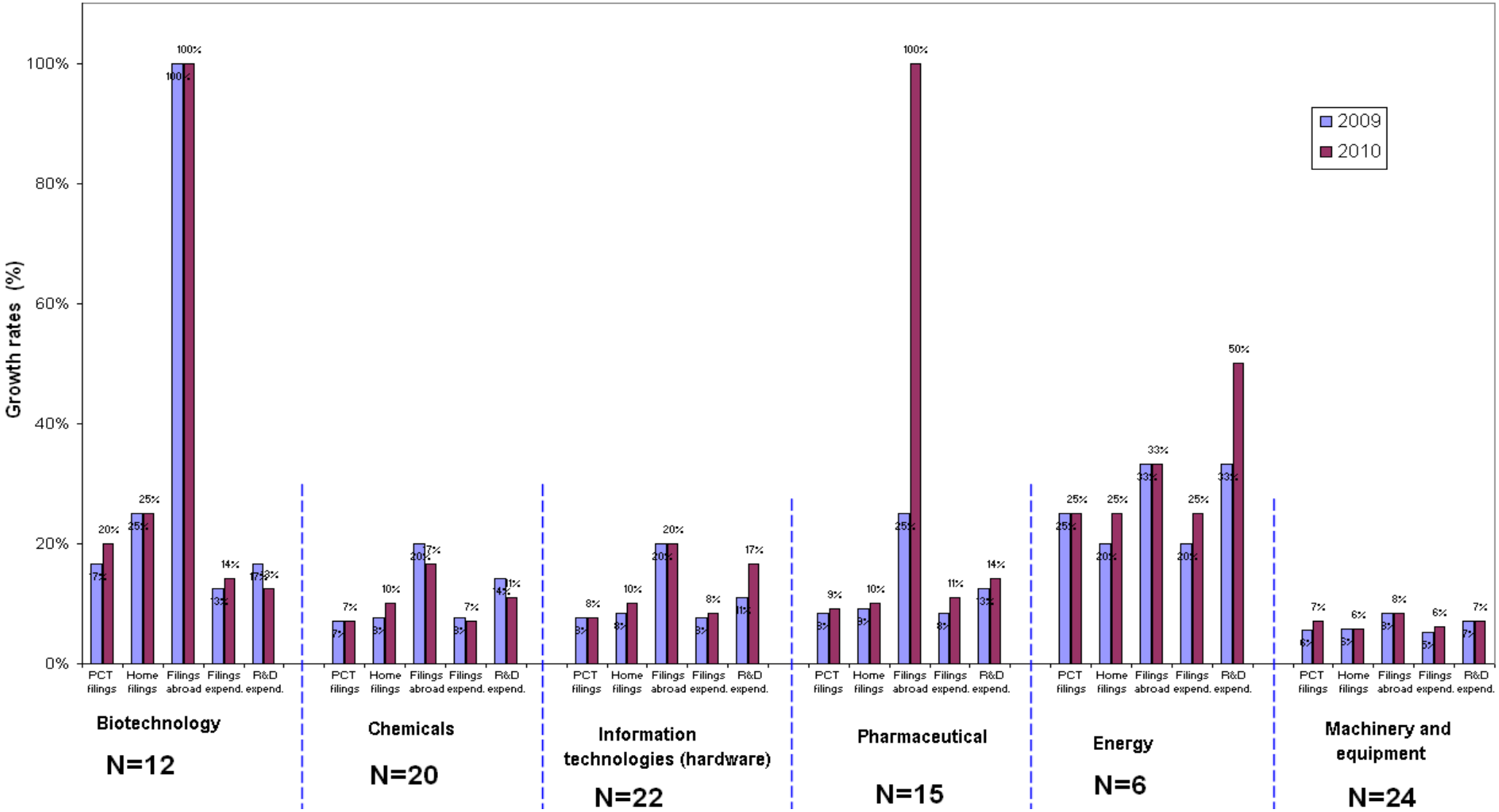
In turn, respondents from both the biotechnology and chemical industry argue that a reassessment of likely returns resulting from the acquisition and maintenance of patent rights is the primary reason for the decline in their IP expenditures. This cause for a decline in IP expenditures is also cited frequently by the IT industry (23% in 2009 and 18% in 2010).

Budgetary decision unrelated to the management of patent rights are the primary reason for IP expenditure declines for the IT industry, reflecting the seeming necessity in that sector to cut costs vigorously in response to the economic cycle. Respondents from the energy and the machinery and equipment industry who experienced declines in IP expenditures also cite overall budget reasons as main cause. While overall budgetary reasons are not the main consideration in the case of the pharmaceutical industry, this reason for declines comes second, and turns out to be more significant in 2010.

Contrary to expectations, insufficient cash flow is not cited as important reason for the declines in any industry, except to some more minor extent by respondents from the biotechnology industry for 2010 (9%), the IT (10% in 2009 and 7% in 2010) and the machinery and equipment industry (5% in 2009 and 5% in 2010) (see Figure 8). Lack of access to credit only seems to have been a minor issue in the case of the IT industry.

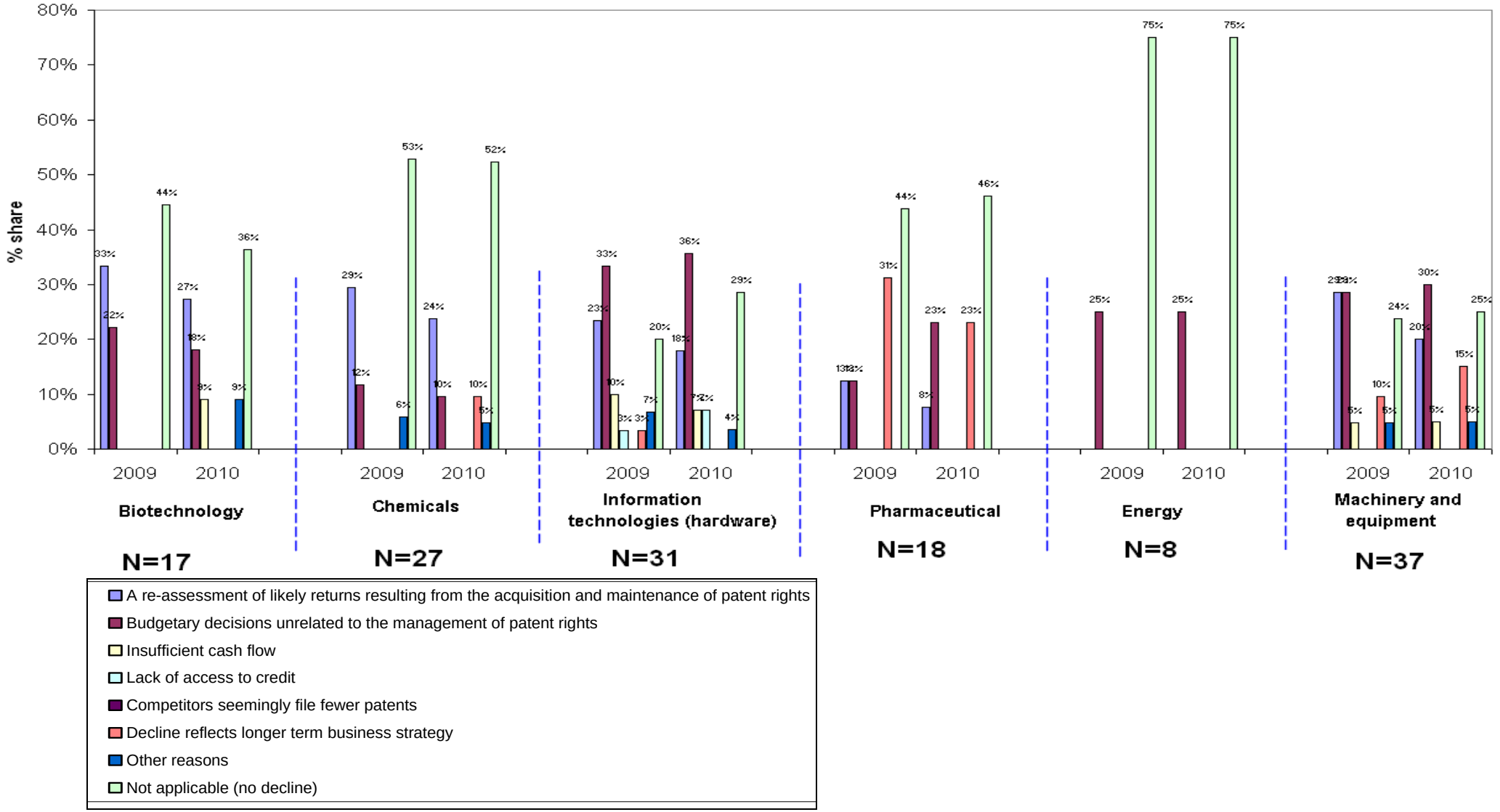
A significant share of respondents indicates that the reasons for the declines are not applicable to them, as they have not cut their IP filing and maintenance expenditures.

Figure 7: Industry - General outlook of 2010 compared to 2009 (in percent)



Note: Figure 7 is based on weighted responses.

Figure 8: Industry - Reasons for the decline in expenditures for filing and maintaining patents in 2009 and 2010 (in percent)



Note: Figure 8 is based on un-weighted responses.

Industry: Reasons for the declines in R&D expenditures

Again, the reasons inducing a decline in R&D expenditures between 2009 and 2010 vary across industries (see Figure 9 based on un-weighted responses).

For a start, the most significant finding is that most respondents indicate that the reasons are not applicable to them, as they have not experienced a decline in R&D expenditures. Across the board, the share of respondents who chose that reply is larger than when asking for reasons for the decline in IP expenditures discussed in the previous section.

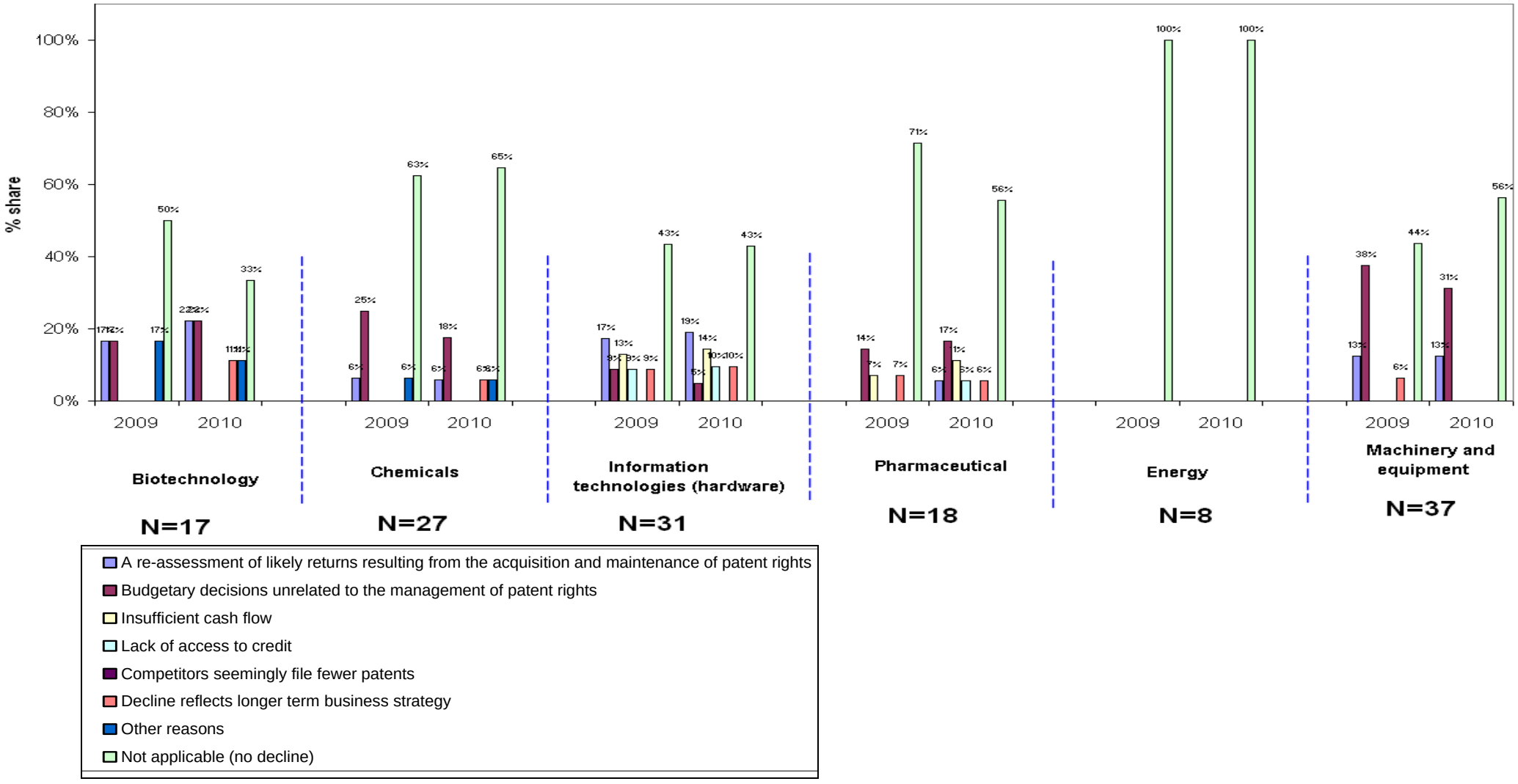
A substantial share of respondents from the biotechnology (17% in 2009 and 22% in 2010) and those from the chemical industry (25% in 2009 and 18% in 2010) attribute the declines in R&D expenditures to budgetary decisions unrelated to the management of patent rights. Respondents from the biotechnology industry also see overarching budgetary decisions as main driver of R&D expenditure declines. To a minor extent the responses from the chemical industry suggest that R&D declines reflect longer-term business strategy in 2010 (6%).

In contrast to the findings in the earlier section, respondents from the pharmaceutical industry indicate that overarching budgetary decisions are the main cause of declines in R&D expenditures (14% in 2009 and 17% in 2010).

Respondents from the IT industry cite a mix of reasons for the decline in R&D expenditures (in decreasing order of importance): a re-assessment of likely returns resulting from the acquisition and maintenance of patent rights, insufficient cash flow, lack of access to credit and longer term business strategy.

Respondents from the machinery and equipment industry who are affected by the declines in R&D expenditures cite budgetary decisions unrelated to the management of patent rights as the main cause of declines (38% in 2009 and 31% in 2010).

Figure 9: Industry - Reasons for the decline in R&D expenditures in 2009 and 2010 (in percent)



Note: Figure 9 is based on un-weighted responses.

PART V: General comments from the applicants

To conclude, the survey instrument also allowed respondents to provide some additional, written comments about their patent filing behavior in 2009 and 2010.

A number of the comments indicate the resilience of the companies' or other entities' IP and R&D strategies in face of the crisis (Box 1). Most of these comments underline the central role that IP plays in overall business strategy. In these cases, temporary economic slow-downs do not seem to affect patenting and R&D.

Box 1: Resilience to the crisis, selected company comments

"Our company was not negatively affected by the overall economy, in fact, we saw significant growth in sales and investment in R&D. "

"We still see the supporting of our IP as crucial to our company."

"No change at all related to the financial crisis. Our patent strategy is solely impacted by our changing R&D priorities."

"As with any other expenditure […] during an economic recession, our patent filing strategy is kept on a tight budget. Yet patents are considered a vital part of our IP portfolio, so spending on patent applications is not influenced to a significant extent."

"It seems our clients have largely finished cleaning up their portfolios. We are receiving fewer abandonment instructions than a year ago."

"We are a technology transfer company for a university. Through 2009 and early 2010 the university's position in respect of funding for research was not greatly affected by the recession. Our ability to access external (commercial) funding has declined however."

A number of comments relate to firm strategies seeking greater efficiencies with respect to their patent filings (see Box 2). In light of the economic crisis and more generally, these firms appear more strategic about the patents they file. In addition, they are more eager to cut the cost of patent filings, in particular costs relating to outside IP law firms.

Box 2: Companies seeking efficiencies, selected company comments

"Filing strategy is mostly being affected by the organization taking a closer look at the cases in preparation and being more diligent about the rationale for filing broadly."

"We no longer send our patent work to law firms. We hired a patent attorney and brought the patent process in-house. Cost went down but the filings went up."

"To save costs in 2009, the company hired a patent prosecution attorney and brought all of the patent work in-house from the outside law firms. The savings were over 50%. By doing this, the company was able to file more patents for less cost."

"IP law firms abroad are trying to maximize their earnings. In doing so, our bottom line for clients seeking IP protection goes up, something we attempt to control on their behalf."

Other company comments relate to the impact of the economic crisis on patent filings abroad (see Box 3). These comments hint either at a more conservative stance towards filings abroad or towards a geographic re-orientation of these patent filings.

Box 3: Impacts on patent filings abroad, selected company comments

"We tend to be more conservative with filings outside of the US."

"We are sharpening our focus on international (outside the US) protection to only 'core commercial technologies' (i.e. truly market differentiated products with clear patentability) and 'strategically significant IP'."

"[…] my clients are now emphasizing US and Asia (apart from Japan) at the expense of Europe and Japan."

"Our clients are finding difficulty in getting the granted patents and the technology licensed out to overseas clients. As such, they are finding it difficult to maintain the granted patents overseas. Consequently, the interest in filing overseas declines."

Finally, some comments relate to the PCT or to rules of the European Patent Office (EPO) having an influence on filings under the PCT system (Box 4).

Box 4: Comments relating to the PCT, selected company comments

"We have already been aggregating multiple initial provisional applications into our PCT applications in order to reduce the number of PCT applications filed."

"We consider the PCT route to be the most economical way to defer national stage decisions, but this may change as PCTs are becoming more expensive to file and prosecute."

"We file PCT applications to delay national filings. However, the recent changes to EPO rule 161 are extremely detrimental to this philosophy."

"The change in the EPO rules has had a serious and negative impact on our patent strategy. It has also influenced our use of the PCT. Claim structures now have to be designed to accommodate European filings. Search requests as done in the PCT also had to change."

Appendix A

Survey questionnaire

WIPO Survey on Patenting Strategies in 2009 and 2010

English

LANGUAGE: On the next page - upper-left part of the survey- you can click on the language, in which you would like to respond. You have the following options: English, French, Spanish, Chinese, Japanese, and Korean.

CONFIDENTIALITY: Your participation in this survey will be kept confidential.

RECEIVE A COPY OF THE RESULTS: At the end of the questionnaire, you may register to receive a copy of the survey results by email. It will offer you information on country and industry trends, which may be helpful for managing your patent portfolio.

SAVE: If you want to save your answers to the questionnaire in order to resume your work later, please click on “SAVE”. Your e-mail address will be required in order to receive an e-mail containing the link that will enable you to return to the questionnaire where you left it.

SUBMIT (see last page of the questionnaire): Please note that, after having submitted your answers to the questionnaire, it will no longer be possible to revert to them.

WIPO Survey on Patenting Strategies in 2009 and 2010

English

Please fill in the information below*.

Name of company or research institute:

Approximate annual turnover (United States Dollars, United States of America D):

Please select

Number of employees: Please select

Institution: Please select

Areas in which you mostly patent:

Please select

Main country of residence: Please select

**The information on name, turnover, employment, sector, and country of residence will only be used to evaluate how representative the survey responses are. It will otherwise be kept confidential. Published survey results will only describe aggregate trends and will not refer to individual companies. However, if you prefer to remain fully or partially anonymous, we still value your responses to the below questions.*

WIPO Survey on Patenting Strategies in 2009 and 2010

English

1. Patent Cooperation Treaty (PCT) filings

Please indicate the annual change in the number of PCT applications filed by your company:

	2009	2010 (expected)
Growth by 2-10 percent	☐	☐
Growth by 10-20 percent	☐	☐
Growth by more than 20 percent	☐	☐
Largely unchanged (between -2 and +2 percent)	☐	☐
Decline by 2-10 percent	☐	☐
Decline by 10-20 percent	☐	☐
Decline by more than 20 percent	☐	☐
Don't know, not applicable, or too early to tell	☐	☐

2. Patent filings at the home patent office (and relevant regional office)

Please indicate the annual change in the number of total patent applications filed by your company at the home[1] patent office and, where relevant, at the regional patent office of which your home jurisdiction is a party (e.g., the European Patent Office):

(expected)	2009	2010
Growth by 2-10 percent	☐	☐
Growth by 10-20 percent	☐	☐
Growth by more than 20 percent	☐	☐
Largely unchanged (between -2 and +2 percent)	☐	☐
Decline by 2-10 percent	☐	☐
Decline by 10-20 percent	☐	☐
Decline by more than 20 percent	☐	☐
Don't know, not applicable, or too early to tell	☐	☐

1. *Defined as the country of residence indicated at the top of the form.*

3. Direct patent filings abroad

Please indicate the annual change in the number of direct ("Paris Convention route") patent filings in foreign jurisdictions:

(expected)	2009	2010
Growth by 2-10 percent	☐	☐
Growth by 10-20 percent	☐	☐
Growth by more than 20 percent	☐	☐
Largely unchanged (between -2 and +2 percent)	☐	☐
Decline by 2-10 percent	☐	☐
Decline by 10-20 percent	☐	☐
Decline by more than 20 percent	☐	☐
Don't know, not applicable, or too early to tell	☐	☐

4. Expenditures for filing and maintaining patents

a) Please indicate the annual change in your expenditures for filing and maintaining patent rights (or intellectual property rights, if no detailed information is available for patents):

	2009	2010 (expected)
Growth by 2-10 percent	☐	☐
Growth by 10-20 percent	☐	☐
Growth by more than 20 percent	☐	☐
Largely unchanged (between -2 and +2 percent)	☐	☐
Decline by 2-10 percent	☐	☐
Decline by 10-20 percent	☐	☐
Decline by more than 20 percent	☐	☐
Don't know, not applicable, or too early to tell	☐	☐

b) If there is a decline in your expenditures for filing and maintaining patent rights was/is this decline driven by (more than one answer is possible):

	2009	2010 (expected)
A re-assessment of likely returns resulting from the acquisition and maintenance of patent rights, in light of the uncertain economic environment associated with the global financial crisis	☐	☐
Budgetary decisions unrelated to the management of patent rights (e.g., organization-wide budget cuts, which had to be shared equally across all departments)	☐	☐
Insufficient cash flow	☐	☐
Lack of access to credit	☐	☐
Competitors seemingly file fewer patents	☐	☐
Decline reflects longer term business strategy	☐	☐
Other reasons:	☐	☐
Not applicable (no decline)	☐	☐

Please specify other reasons

5. Research and development expenditures

a) Please indicate the annual change in your expenditures on research and development (R&D):

	2009	2010 (expected)
Growth by 2-10 percent	☐	☐
Growth by 10-20 percent	☐	☐
Growth by more than 20 percent	☐	☐
Largely unchanged (between -2 and +2 percent)	☐	☐
Decline by 2-10 percent	☐	☐
Decline by 10-20 percent	☐	☐
Decline by more than 20 percent	☐	☐
Don't know, not applicable, or too early to tell	☐	☐

b) If there is a decline in your R&D expenditures, was/is this decline driven by (more than one answer is possible):

	2009	2010 (expected)
A re-assessment of likely returns to acquiring and maintaining patent rights, in light of the uncertain economic environment associated with the global financial crisis	☐	☐
Budgetary decisions unrelated to the management of patent rights (e.g., organization-wide budget cuts, which had to be shared equally across all departments)	☐	☐
Insufficient cash flow	☐	☐
Lack of access to credit	☐	☐
Competitors seemingly file less patents	☐	☐
Decline reflects longer term business strategy	☐	☐
Other reasons:	☐	☐
Not applicable (no decline)	☐	☐

Please specify other reasons

72%

WIPO Survey on Patenting Strategies in 2009 and 2010

English

6. Additional comments

Please share any additional comments that would better describe your company's patent filing strategy in light of the global financial crisis and the emerging economic recovery.

7. Your contact information (optional)

Please fill in the information below:

Name:

Title

Organization

Email address:

Would you like to receive a copy of the survey results by email?

- Yes
- No

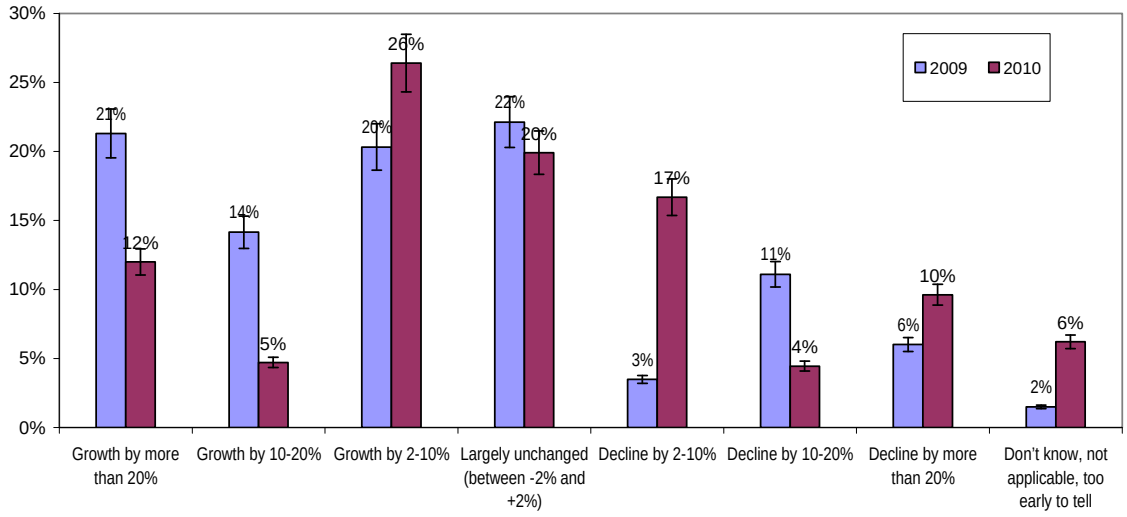
Submit

Appendix B

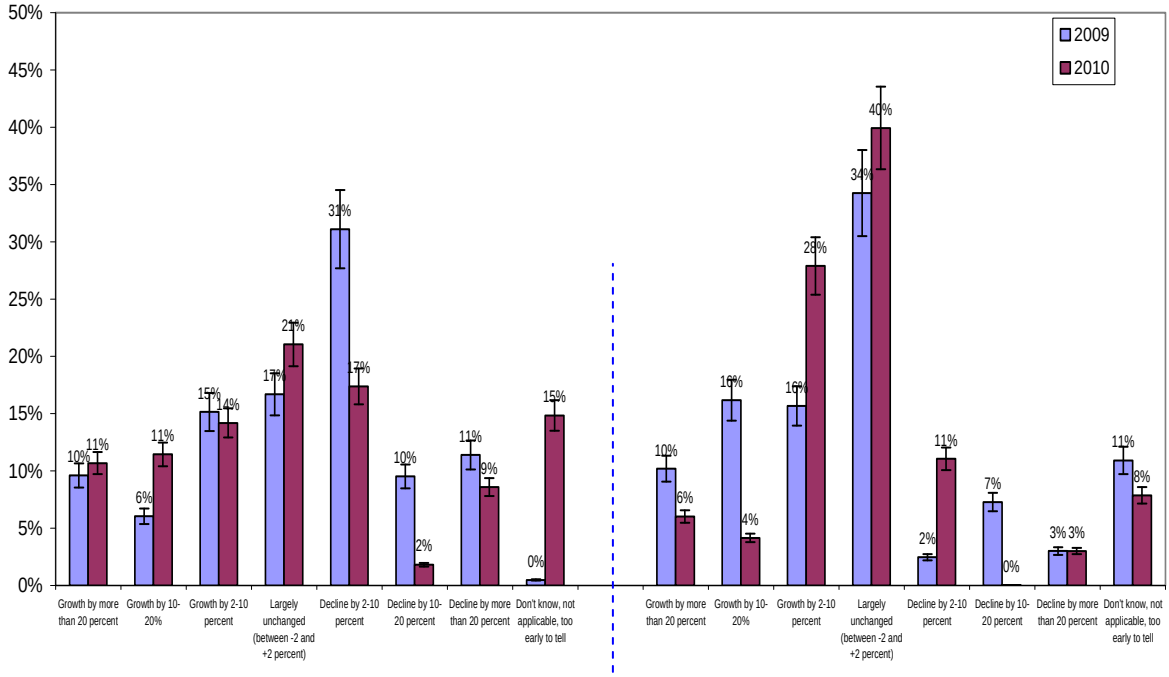
Appendix figures 1 to 54 are based on weighted responses. The *error bars* provide a general insight into how accurate the mean estimates of the weighted responses are compared to the population mean of the top PCT users.

World findings by category of growth rates

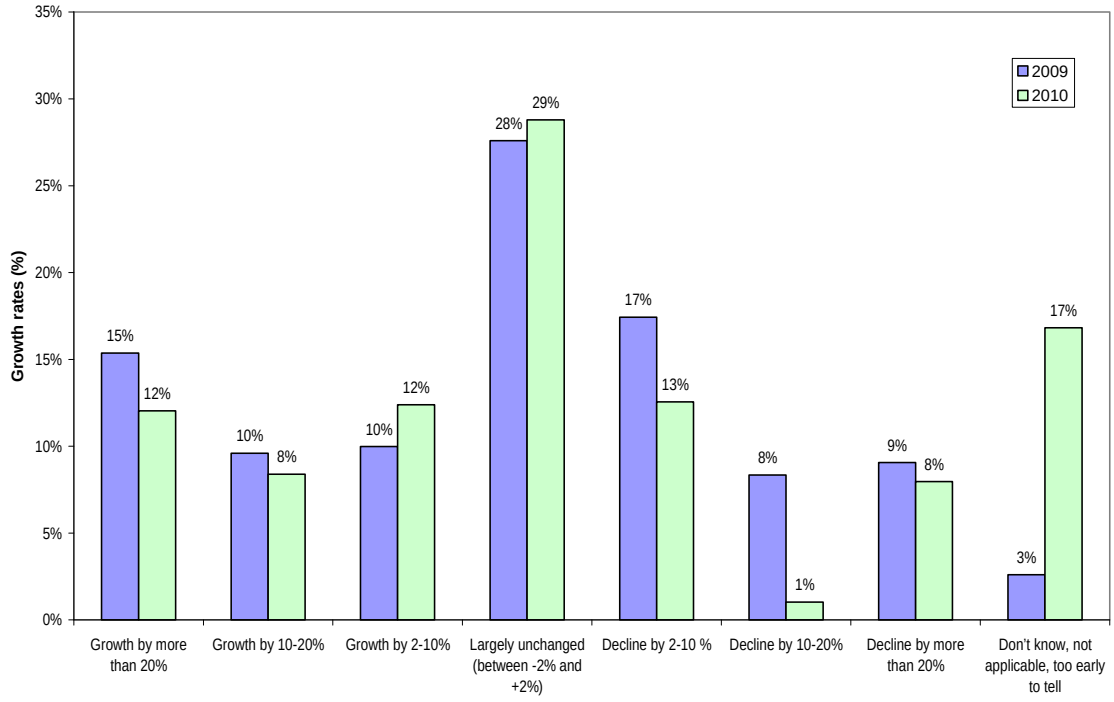
Appendix figure 1: World - Change in growth rates of PCT filings by growth category (in percent)



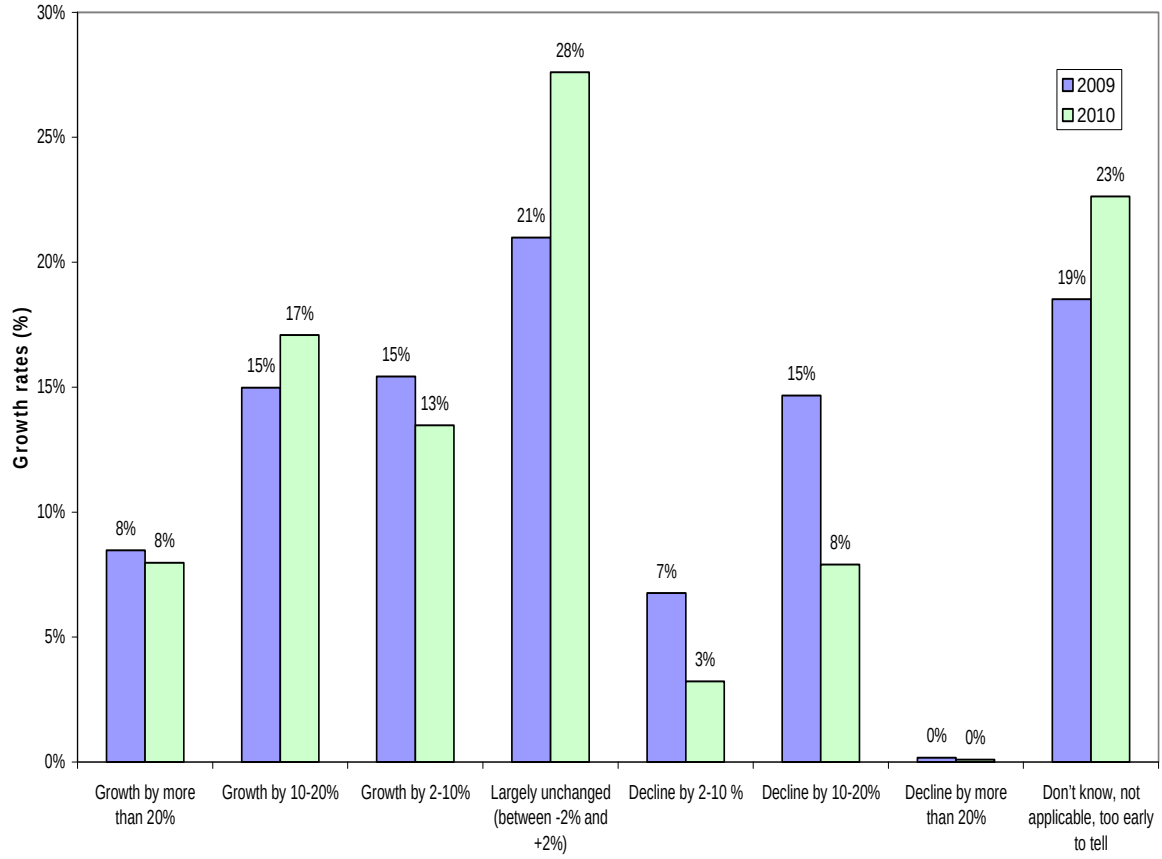
Appendix figure 2: World - Change in growth rates of home filings (left-panel) vs. filings abroad (right- panel) by growth category (in percent)



Appendix figure 3: World - Change in growth rates of IP expenditures by growth category (in percent)



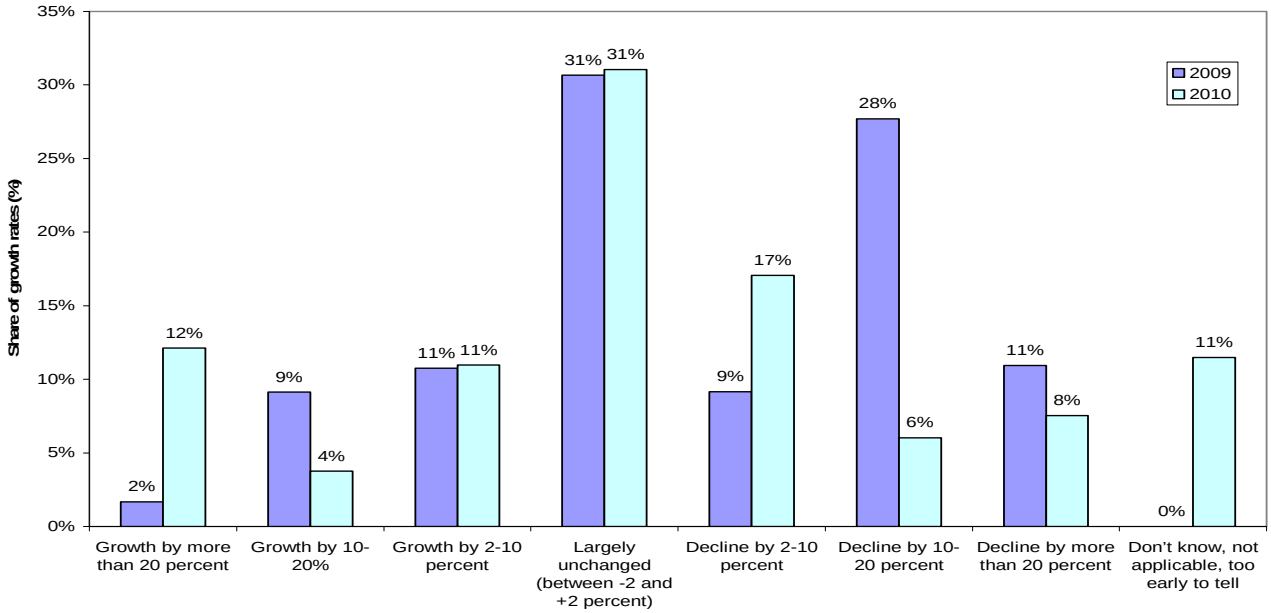
Appendix figure 4: World - Change in growth rates of R&D expenditures by growth category (in percent)



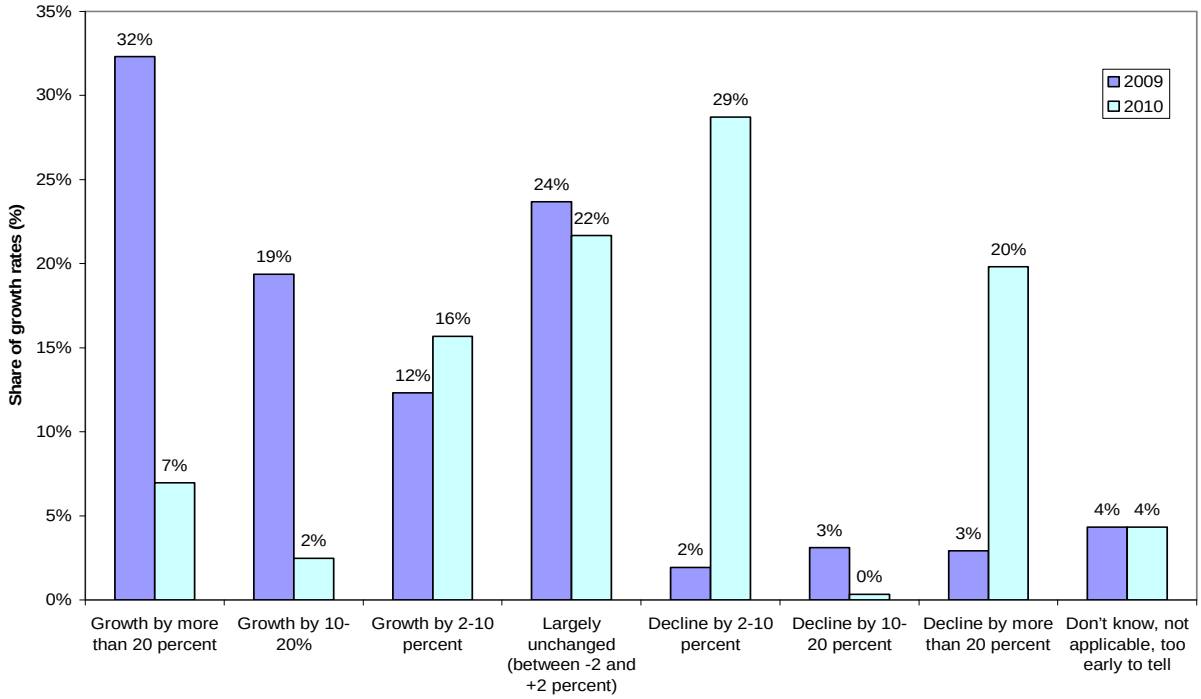
Appendix C

Country findings by category of growth rates

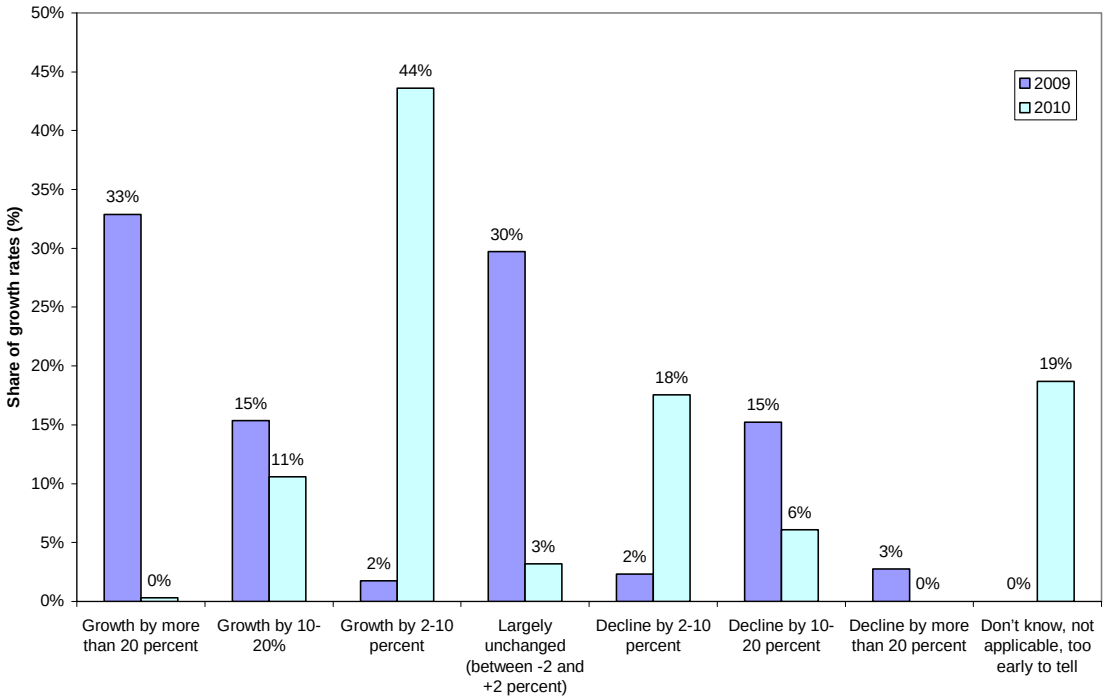
Appendix figure 5: US - Change in growth rates of PCT filings by growth category *(in percent)*



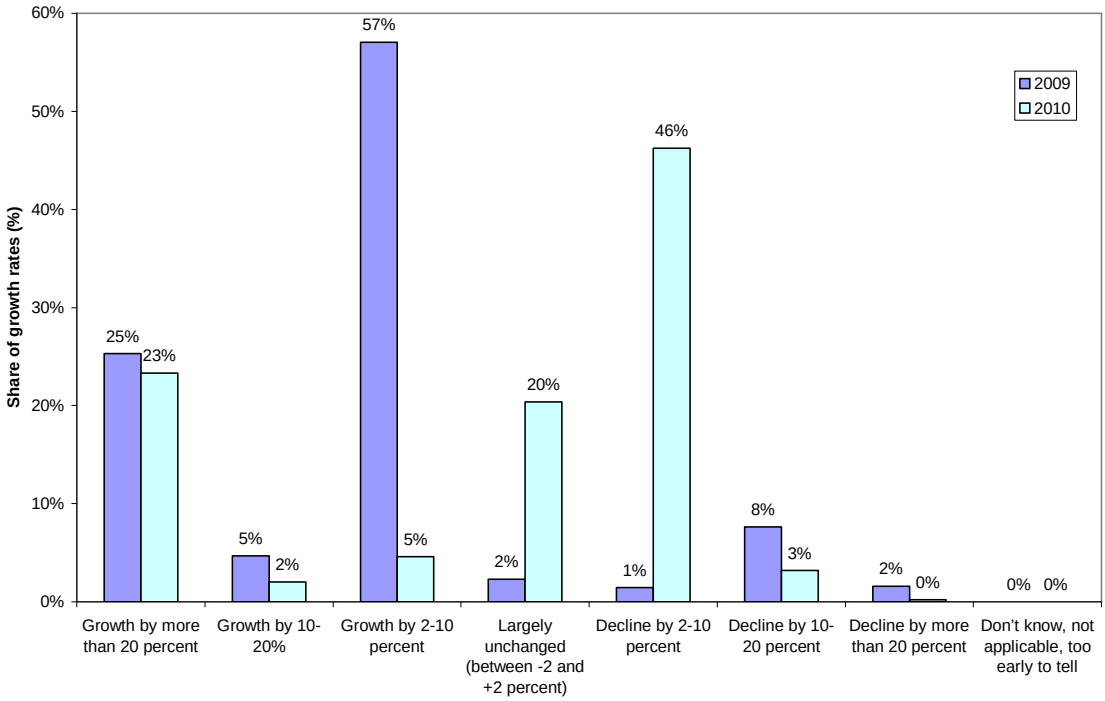
Appendix figure 6: Europe - Change in growth rates of PCT filings by growth category *(in percent)*



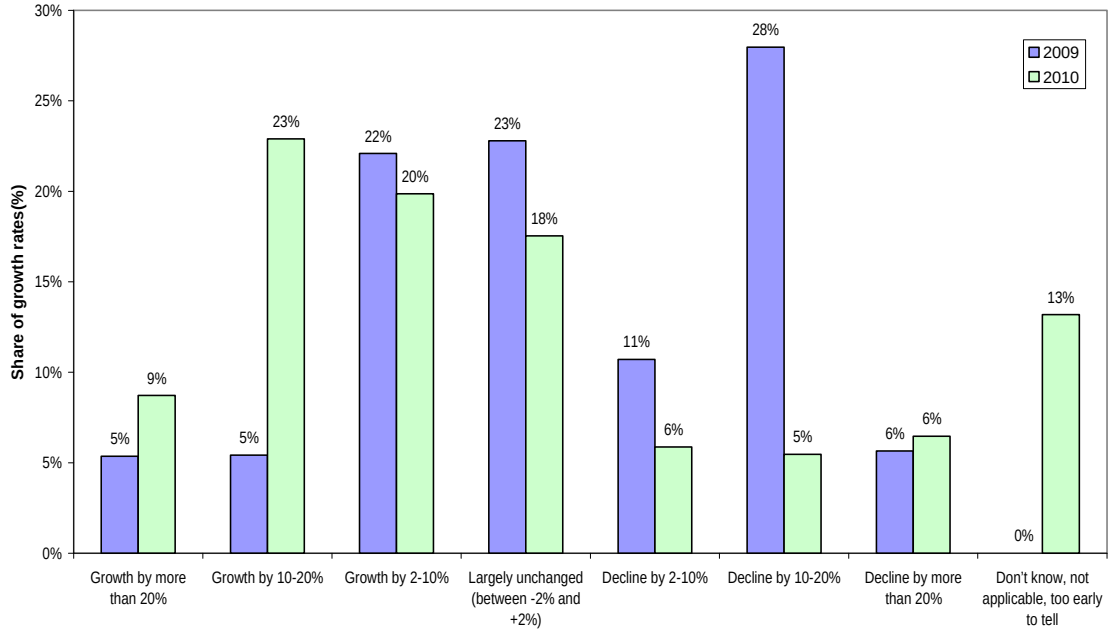
Appendix figure 7: Japan - Change in growth rates of PCT filings by growth category (in percent)



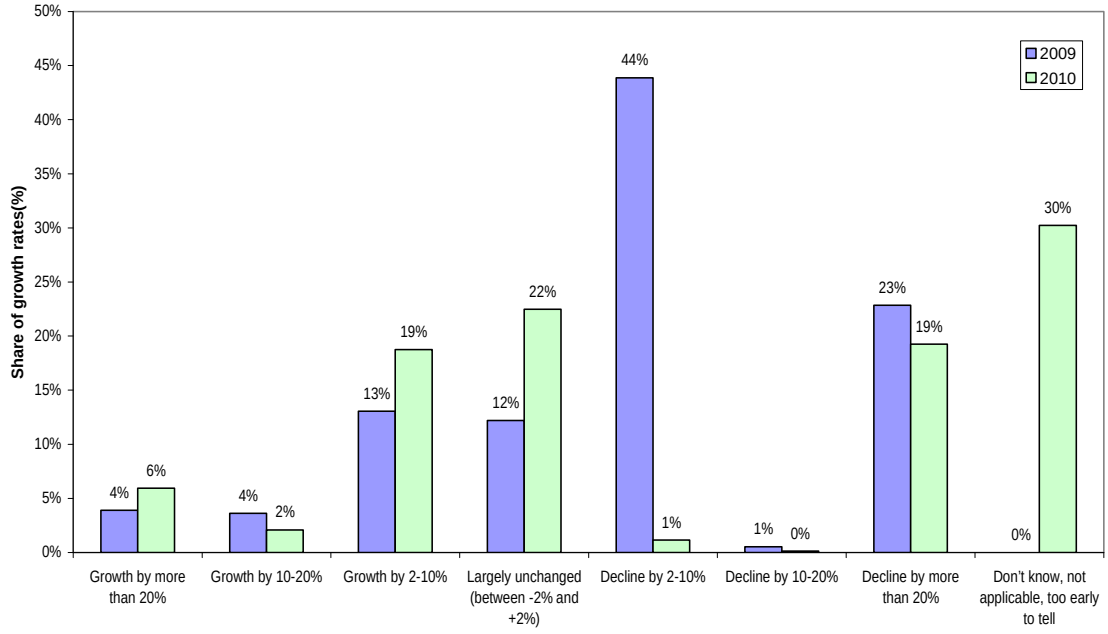
Appendix figure 8: Republic of Korea - Change in growth rates of PCT filings by growth category *(in percent)*



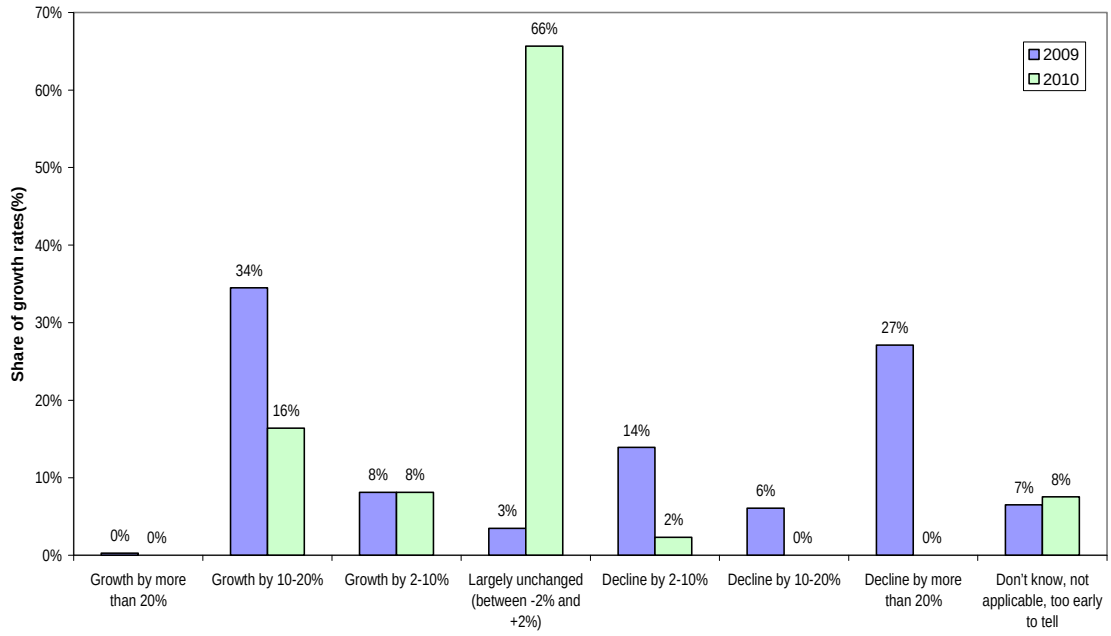
Appendix figure 9: US - Change in growth rates of home filings (in percent)



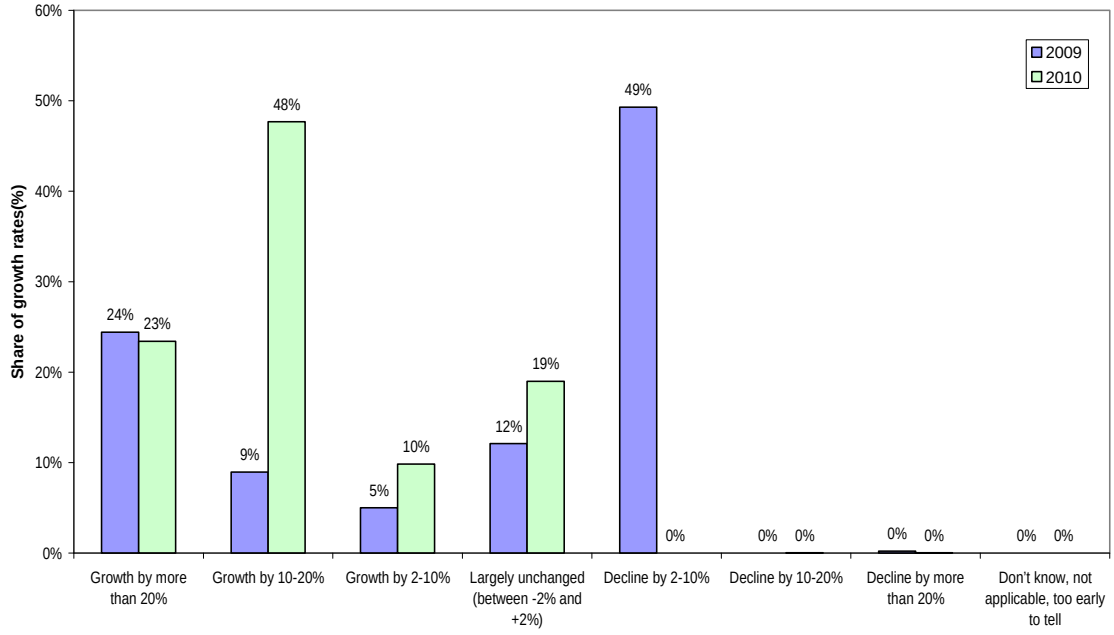
Appendix figure 10: Europe - Change in growth rates of home filings (in percent)



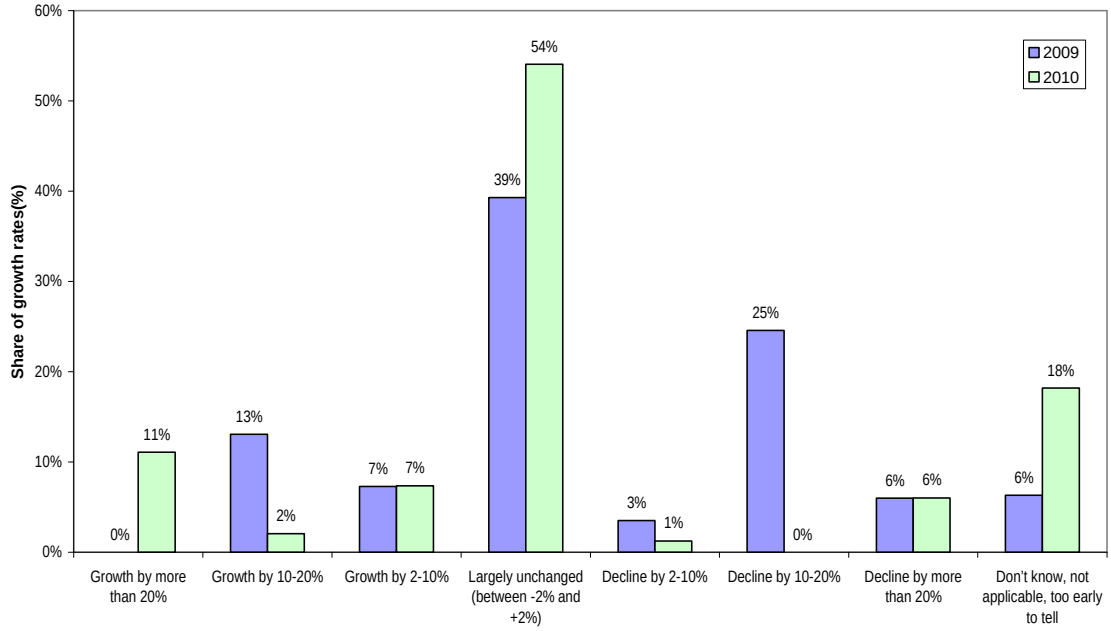
Appendix figure 11: Japan - Change in growth rates of home filings (in percent)



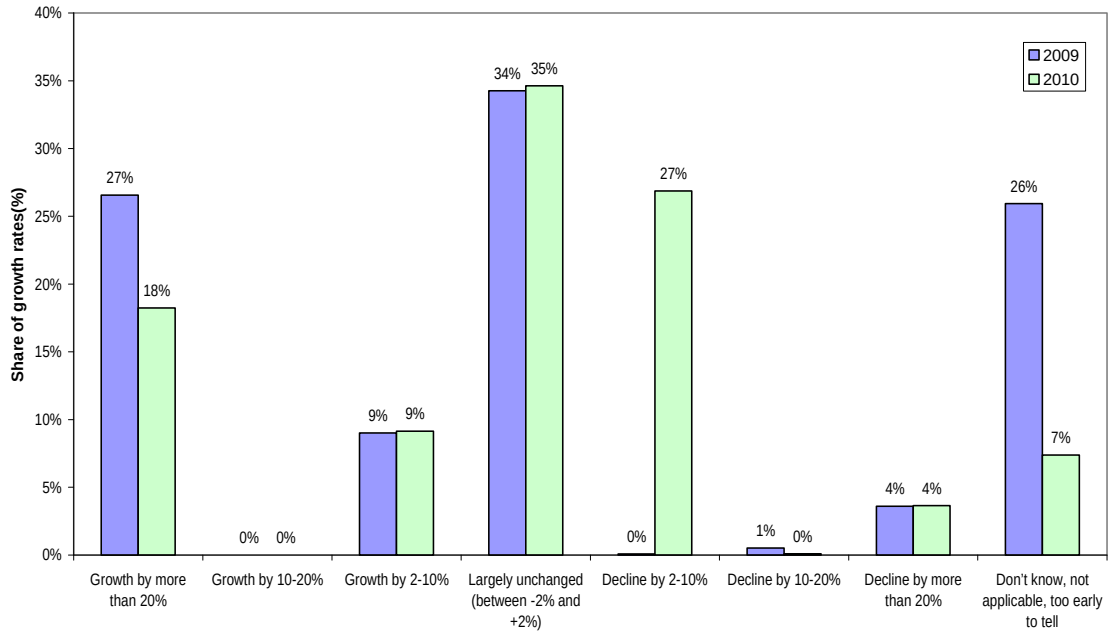
Appendix figure 12: Republic of Korea - Change in growth rates of home filings (in percent)



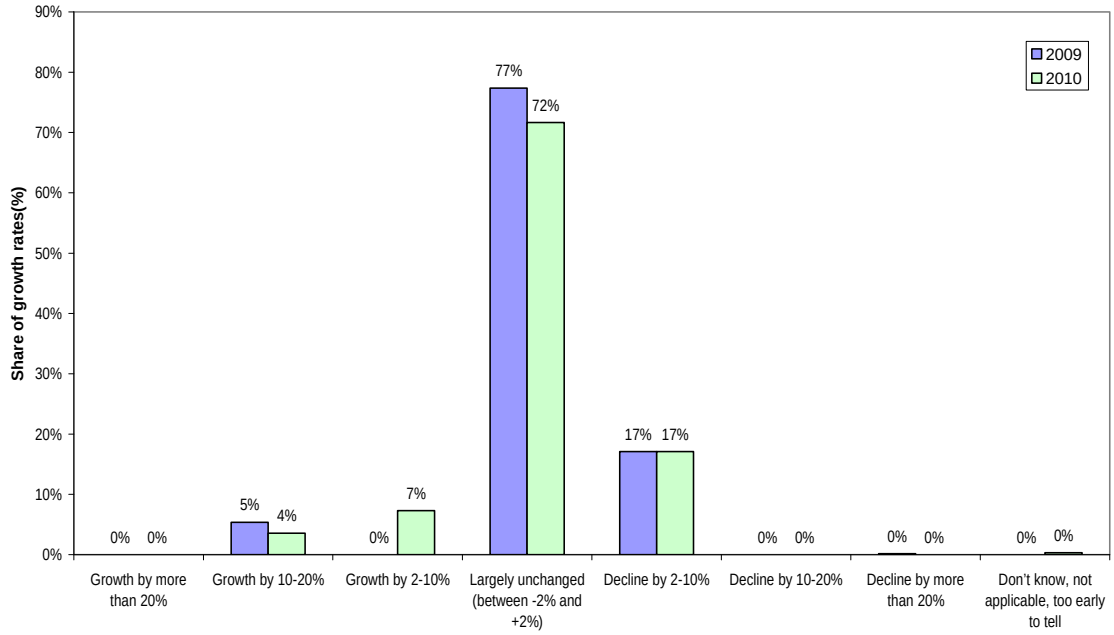
Appendix figure 13: US - Change in growth rates of filings abroad (in percent)



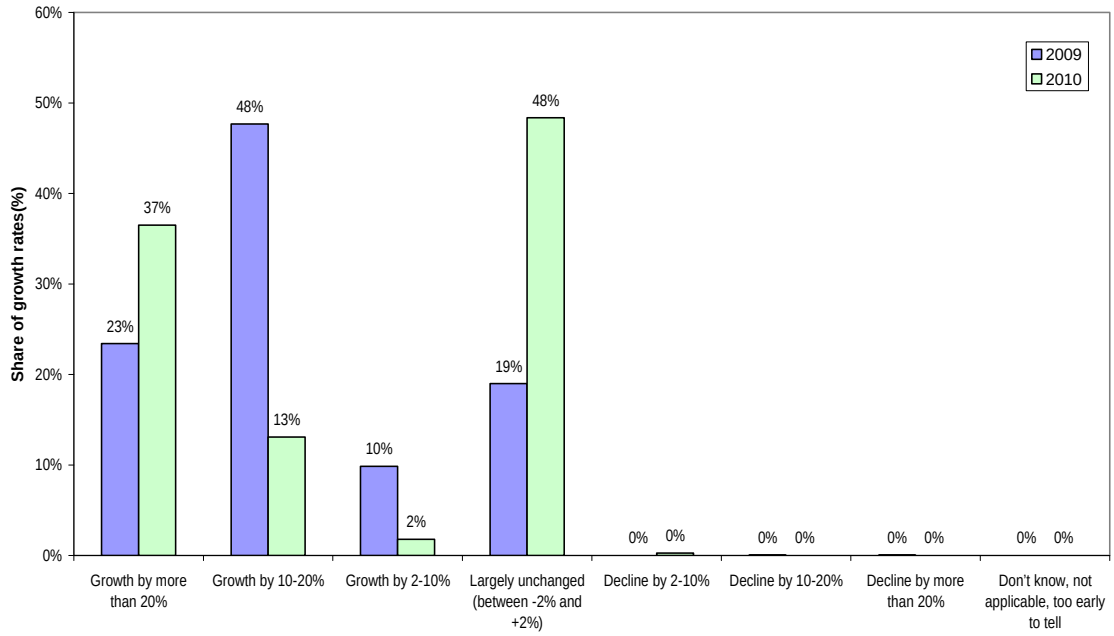
Appendix figure 14: Europe - Change in growth rates of filings abroad (in percent)



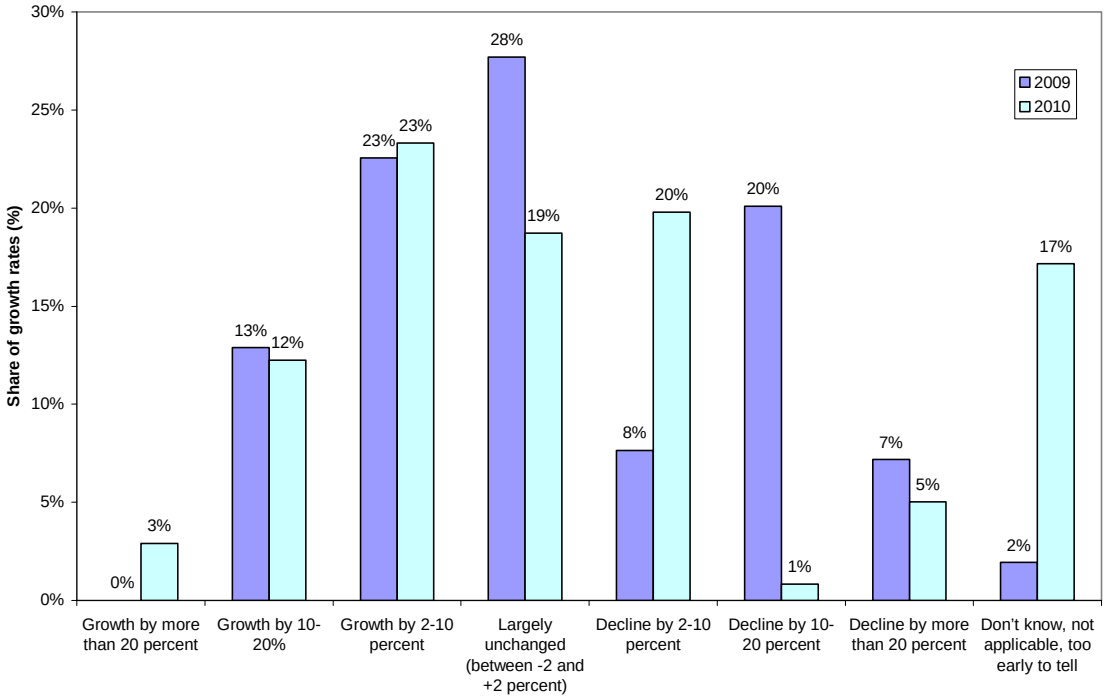
Appendix figure 15: Japan - Change in growth rates of filings abroad (in percent)



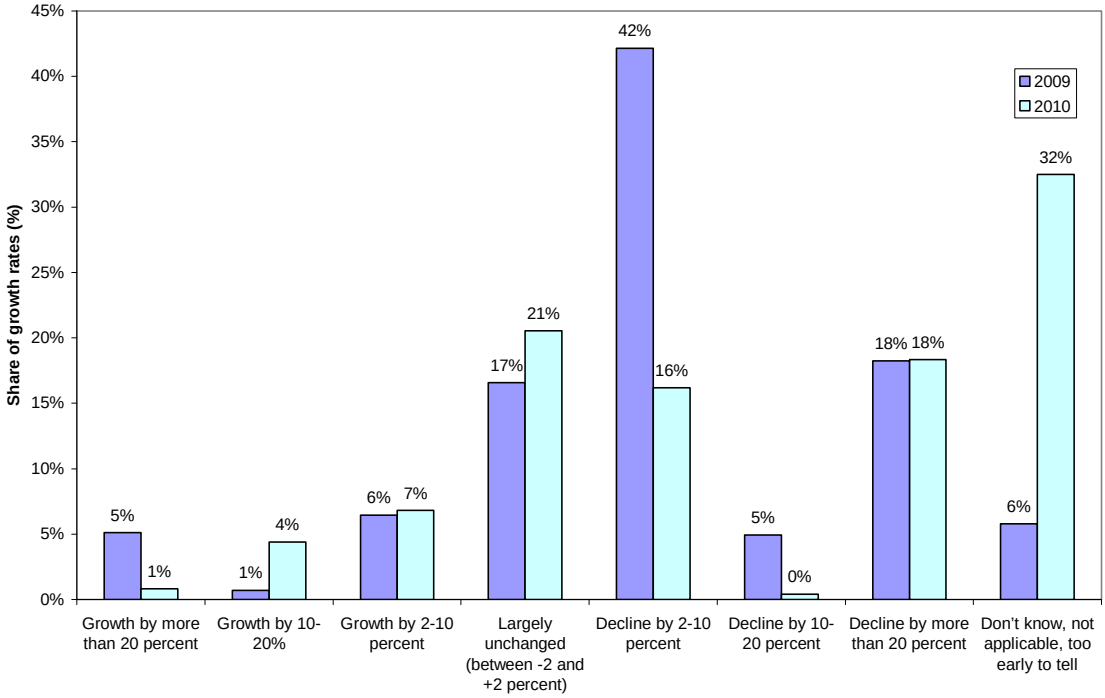
Appendix figure 16: Republic of Korea - Change in growth rates of filings abroad (in percent)



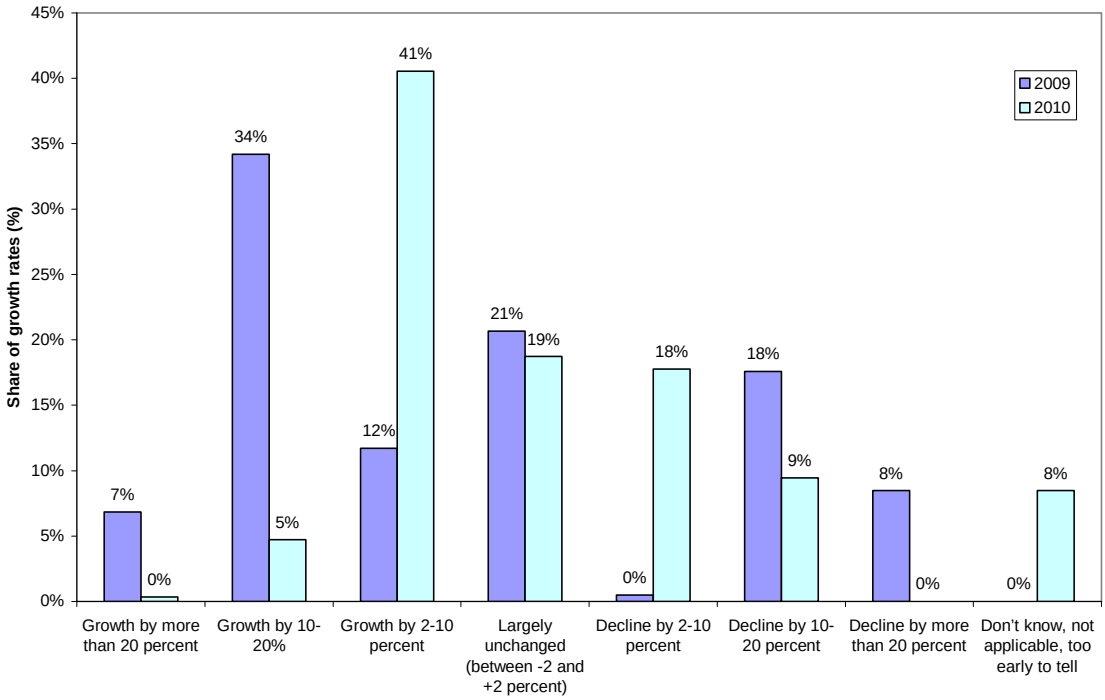
Appendix figure 17: US - Change in growth rates of IP expenditures by growth category (in percent)



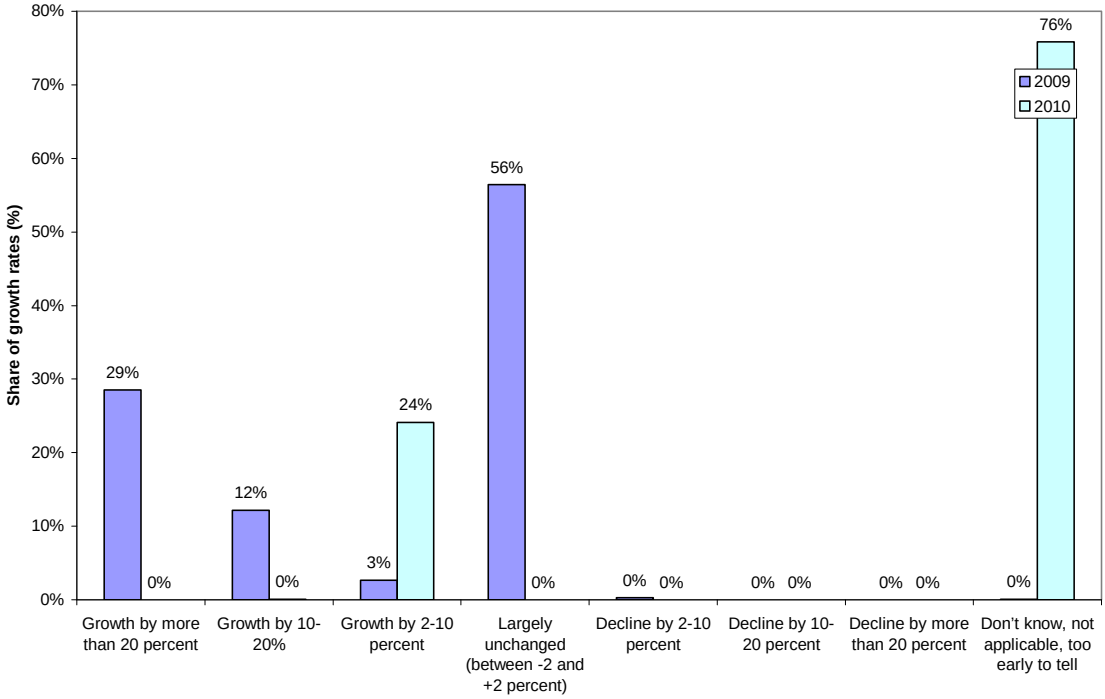
Appendix figure 18: Europe - Change in growth rates of IP expenditures by growth category (in percent)



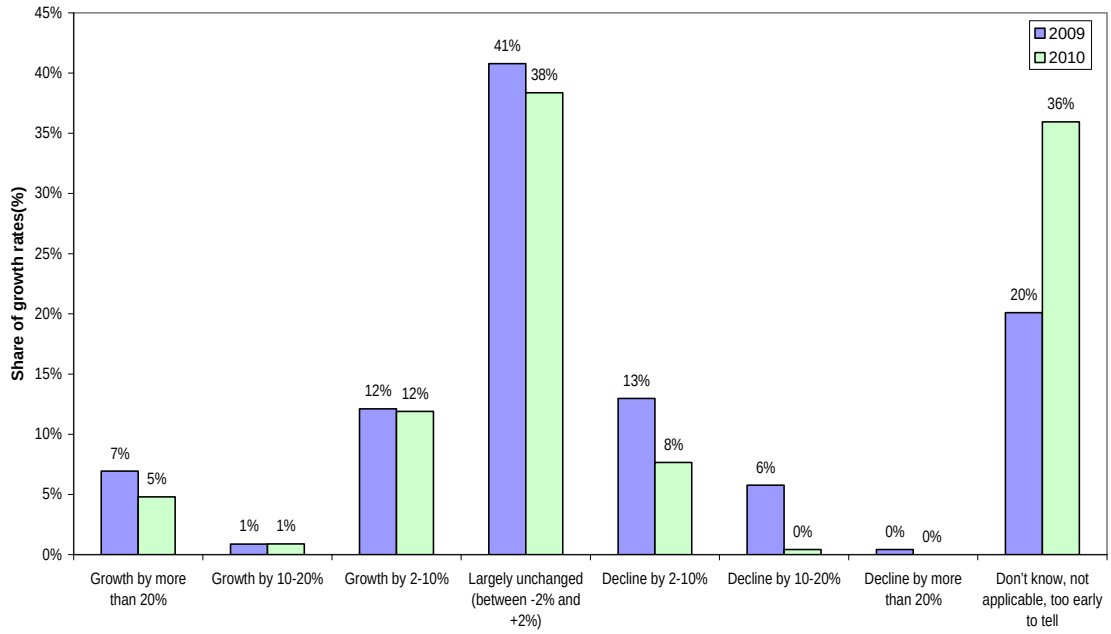
Appendix figure 19: Japan - Change in growth rates of IP expenditures by growth category (in percent)



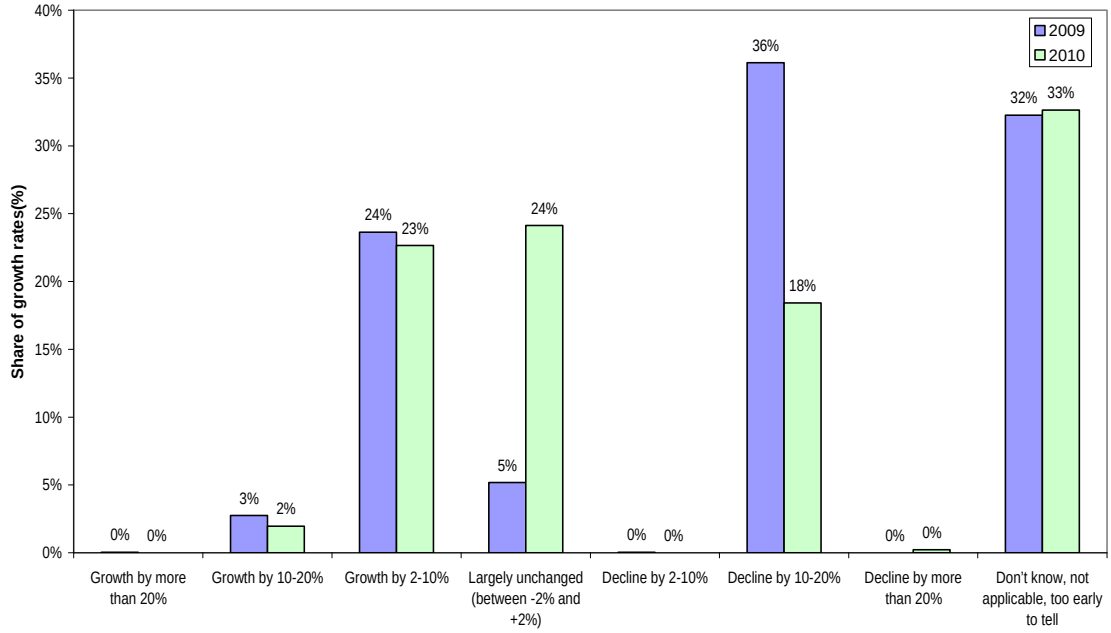
Appendix figure 20: Republic of Korea - Change in growth rates of IP expenditures by growth category (in percent)



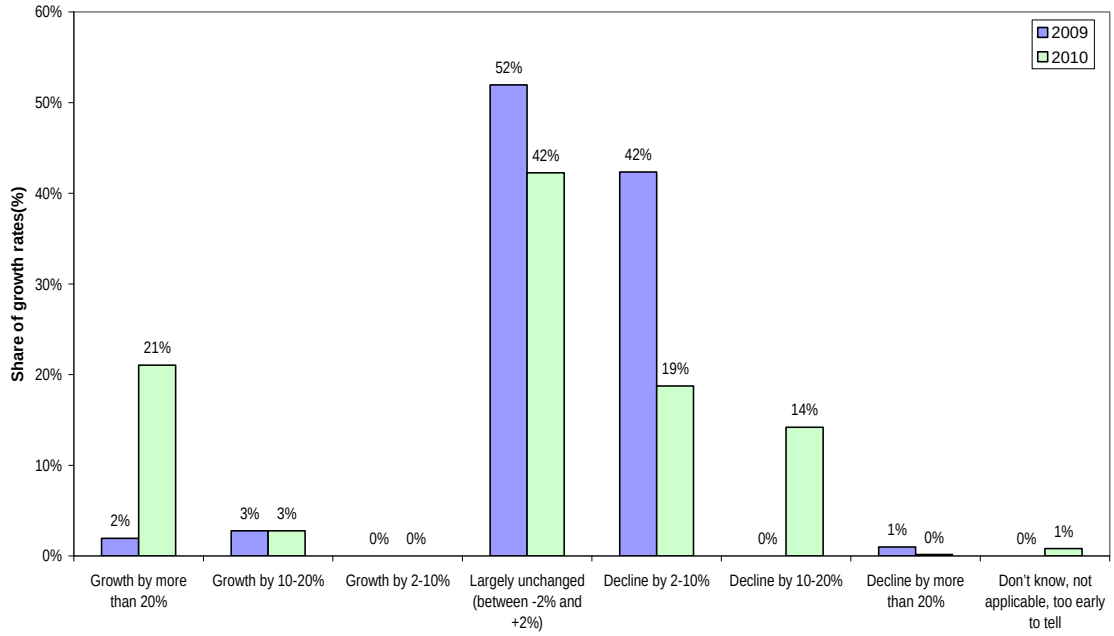
Appendix figure 21: US - Change in growth rates of R&D expenditures by growth category (in percent)



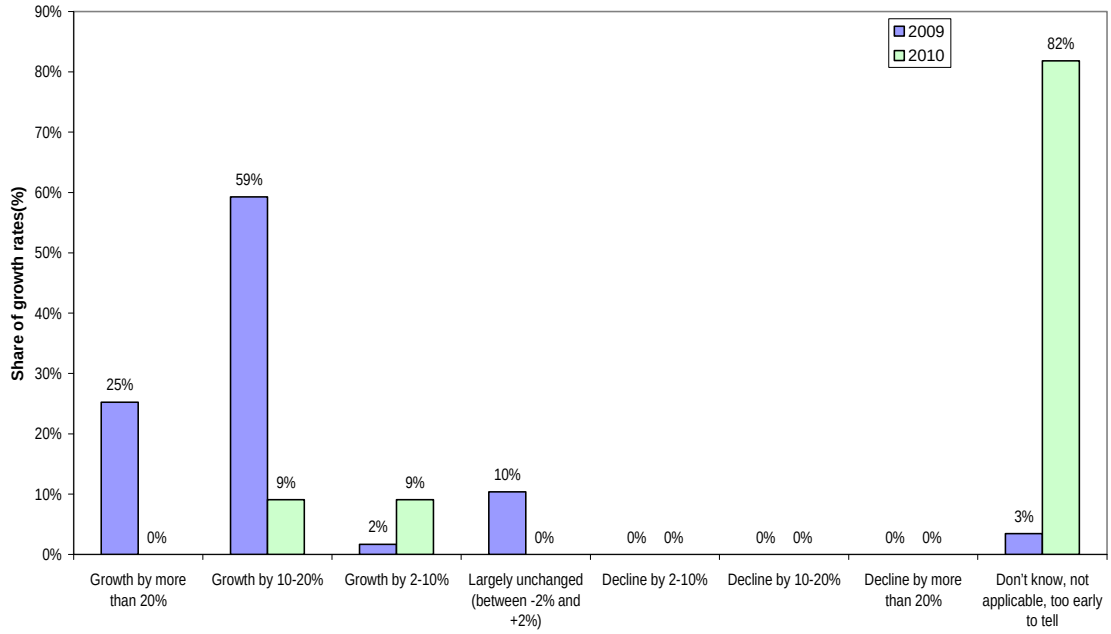
Appendix figure 22: Europe - Change in growth rates of R&D expenditures by growth category (in percent)



Appendix figure 23: Japan - Change in growth rates of R&D expenditures by growth category (in percent)



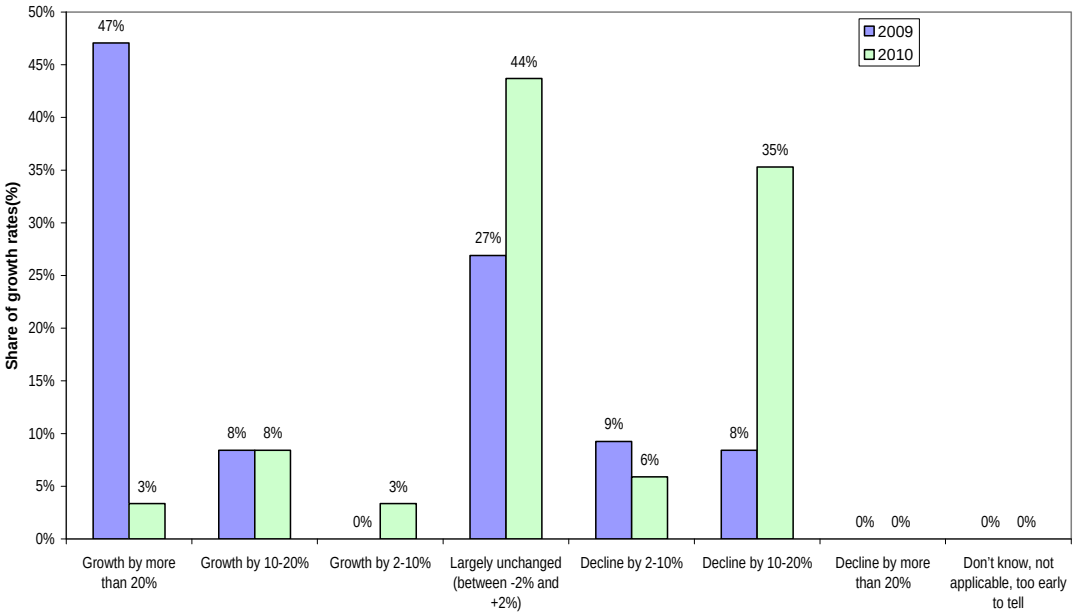
Appendix figure 24: Republic of Korea - Change in growth rates of R&D expenditures by growth category (in percent)



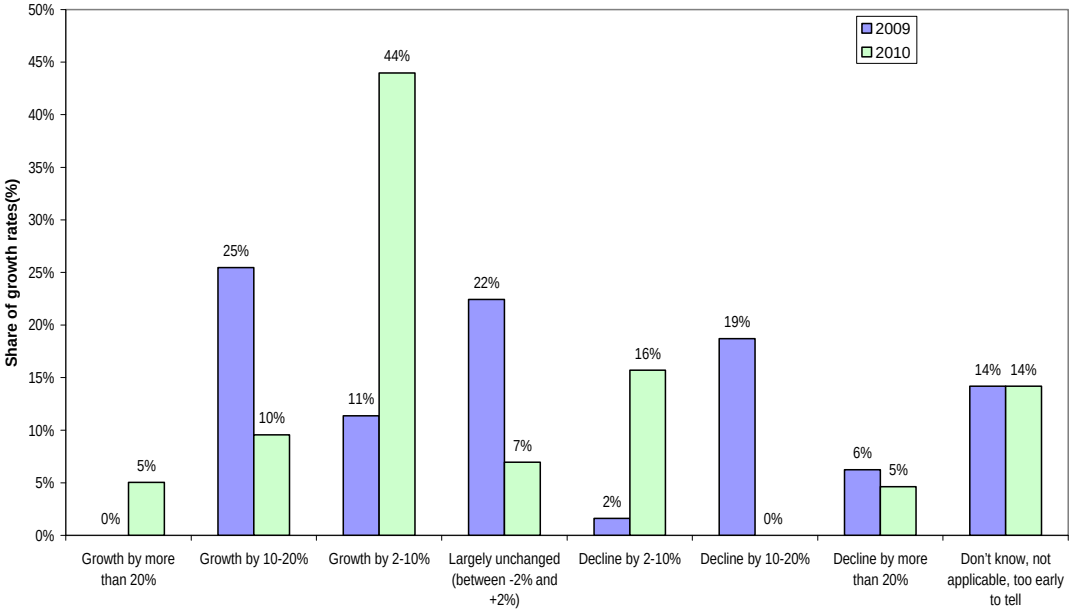
Appendix D

Industry findings by category of growth rates

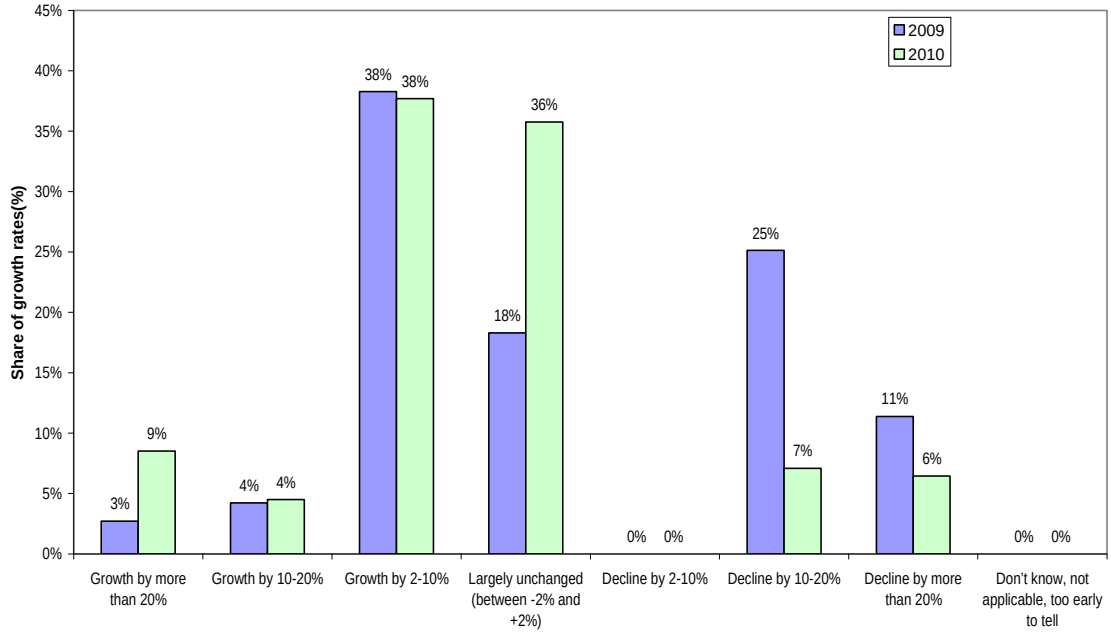
Appendix figure 25: Biotechnology - Change in growth rates of PCT filings (in percent)



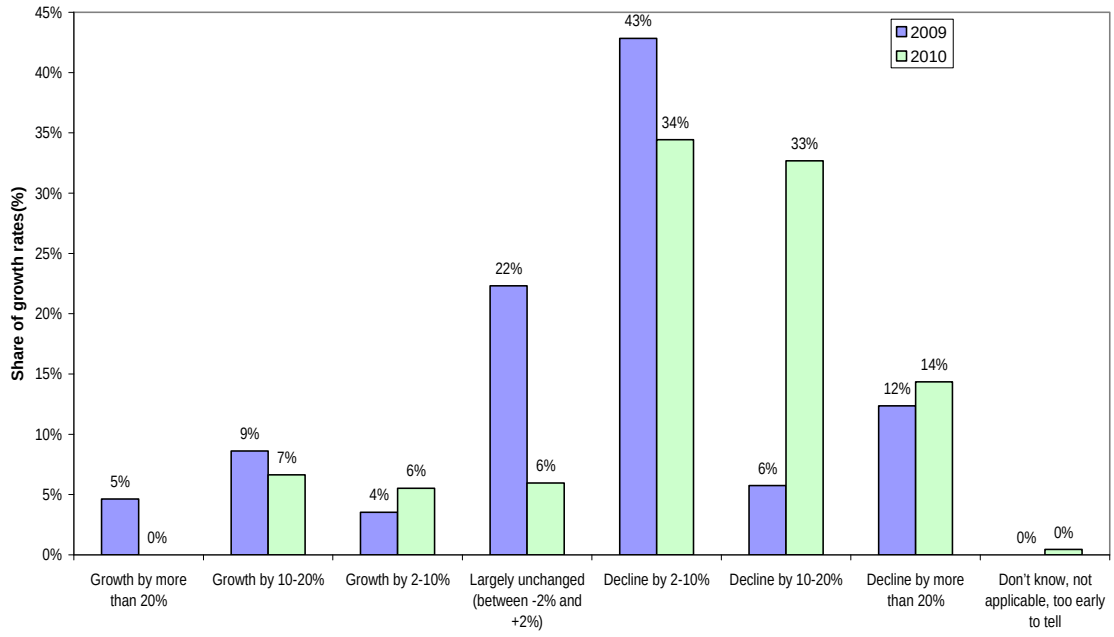
Appendix figure 26: Chemicals - Change in growth rates of PCT filings (in percent)



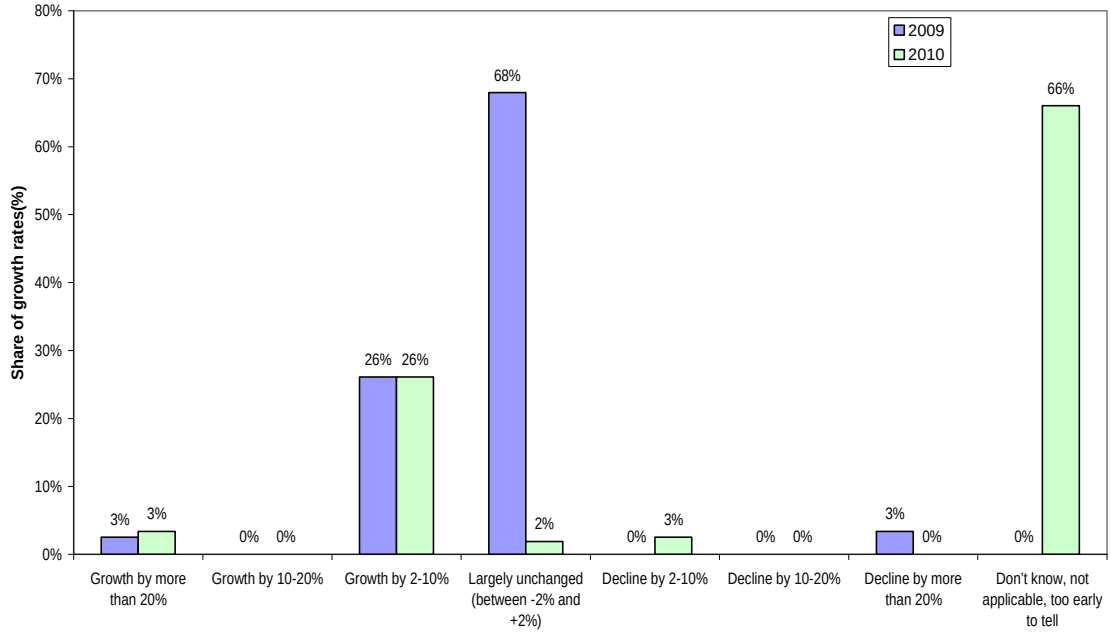
Appendix figure 27: IT (hardware) - Change in growth rates of PCT filings (in percent)



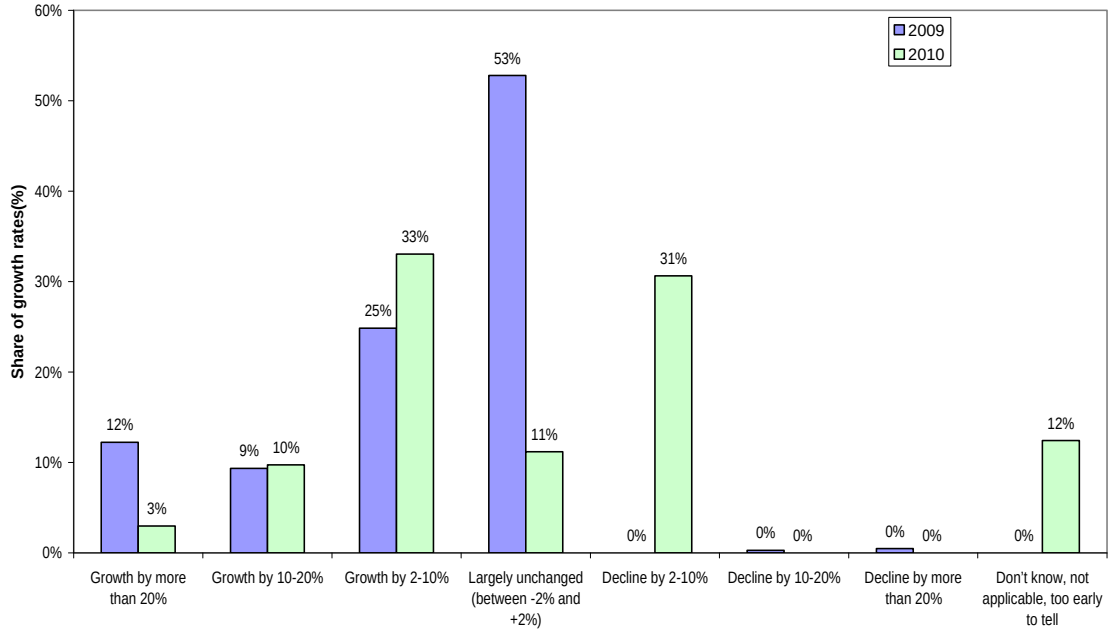
Appendix figure 28: Pharmaceutical - Change in growth rates of PCT filings (in percent)



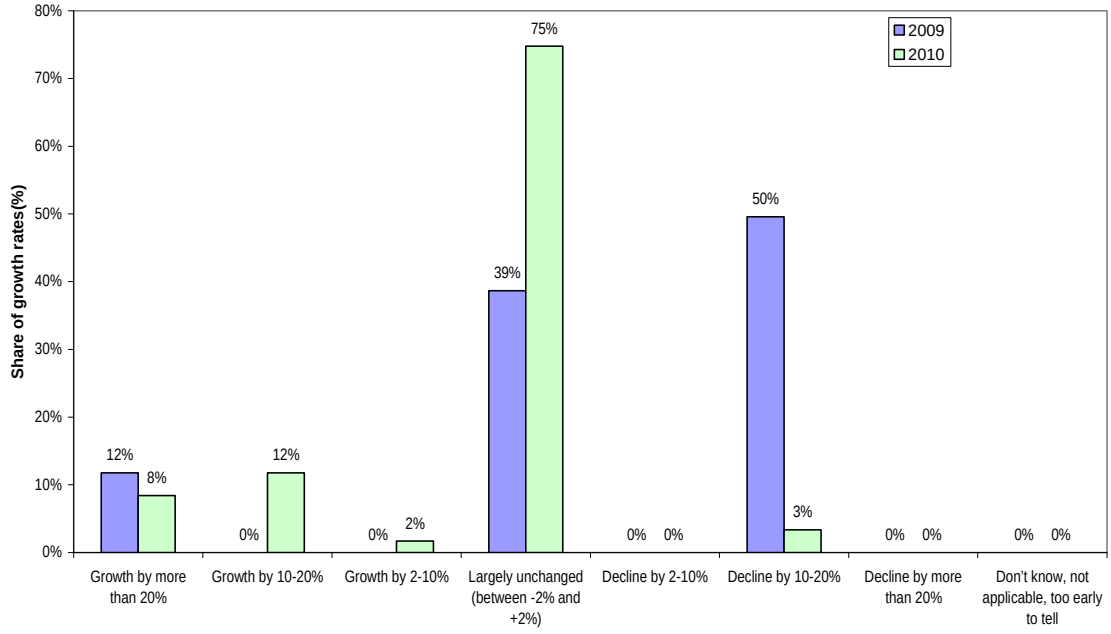
Appendix figure 29: Energy - Change in growth rates of PCT filings (in percent)



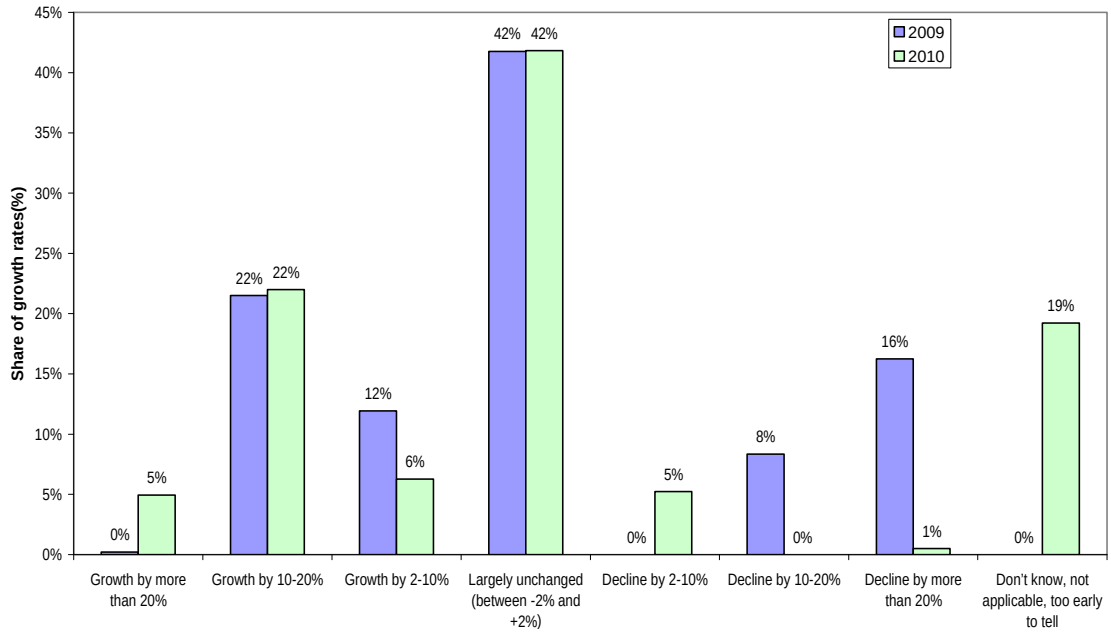
Appendix figure 30: Machinery and equipment - Change in growth rates of PCT filings (in percent)



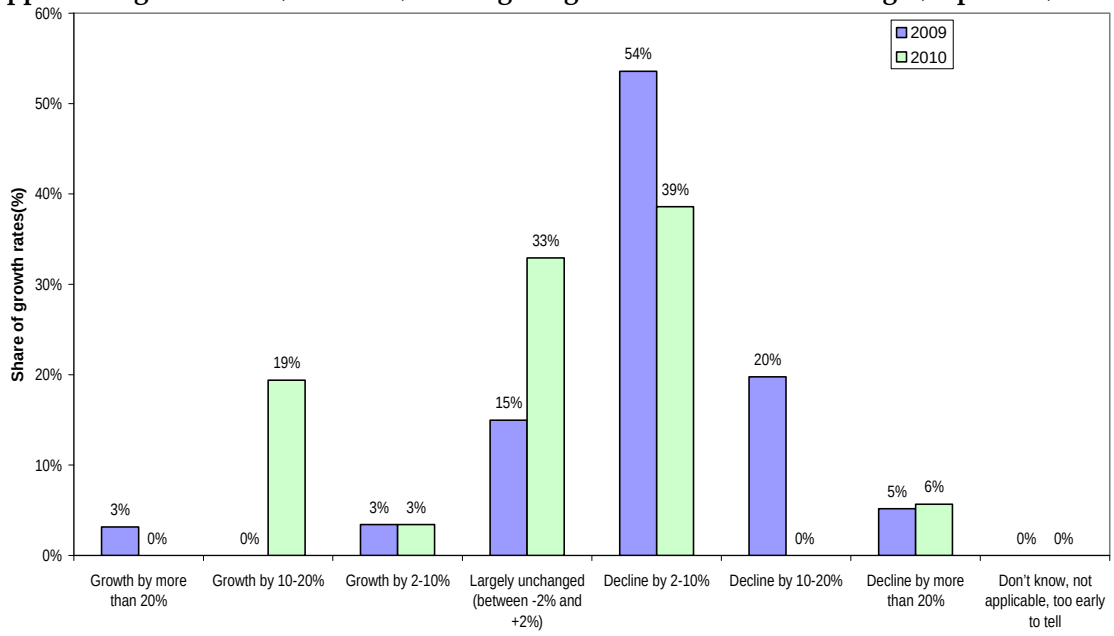
Appendix figure 31: Biotechnology - Change in growth rates of home filings (in percent)



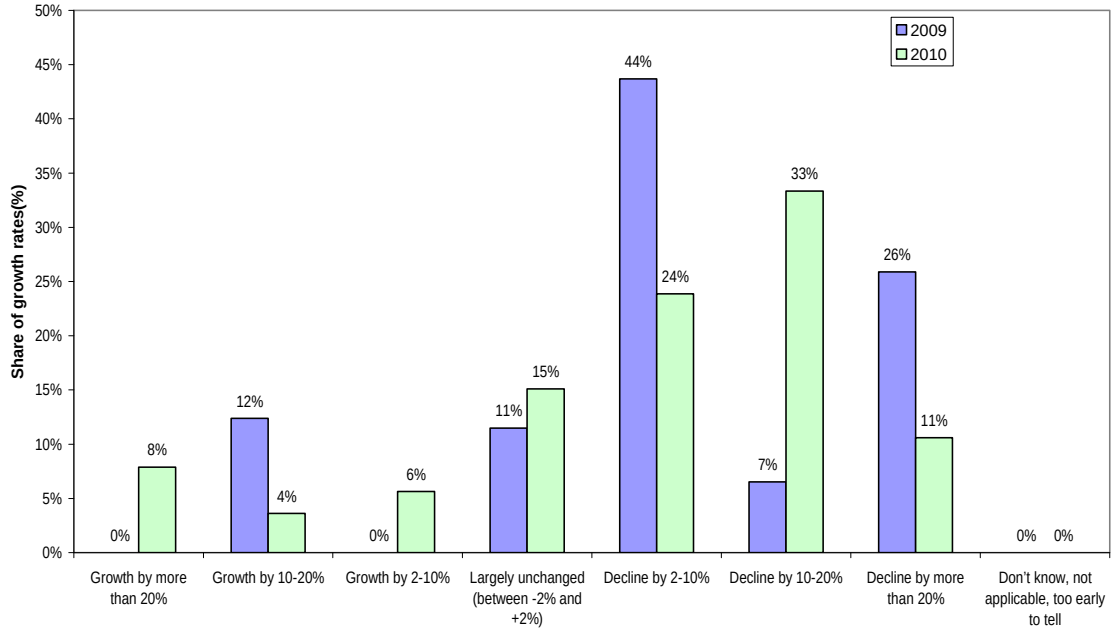
Appendix figure 32: Chemicals - Change in growth rates of home filings (in percent)



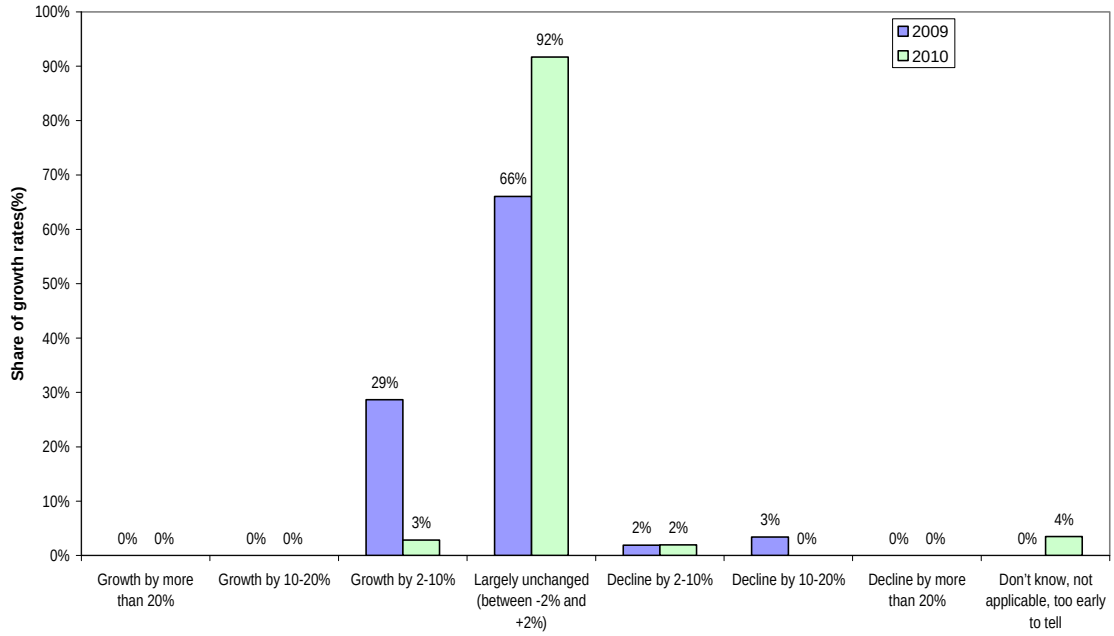
Appendix figure 33: IT (hardware) - Change in growth rates of home filings (in percent)



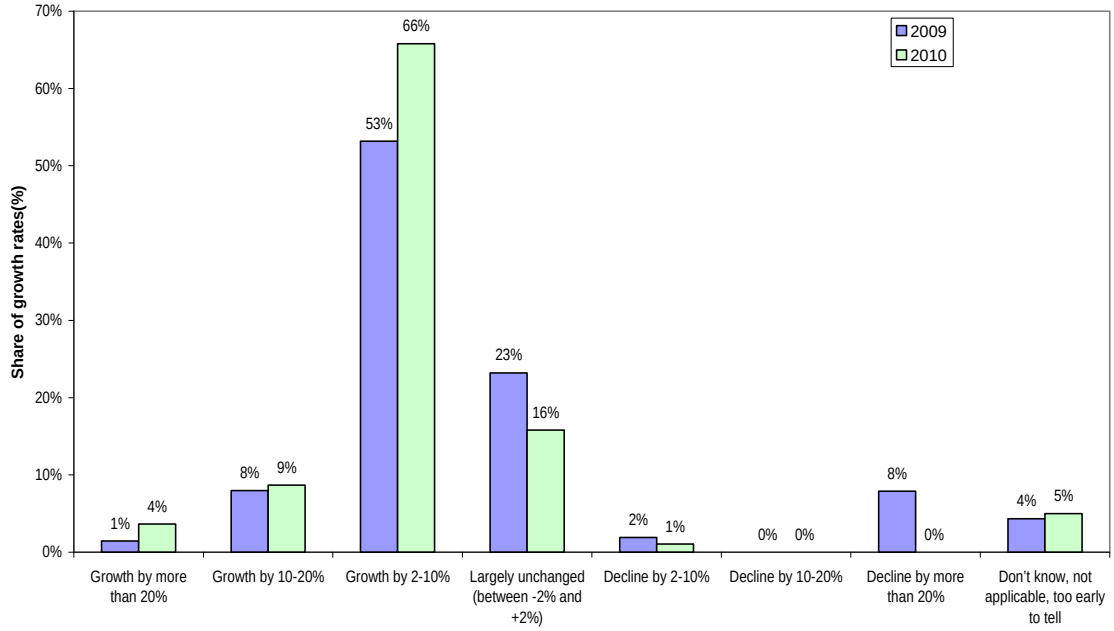
Appendix figure 34: Pharmaceutical - Change in growth rates of home filings (in percent)



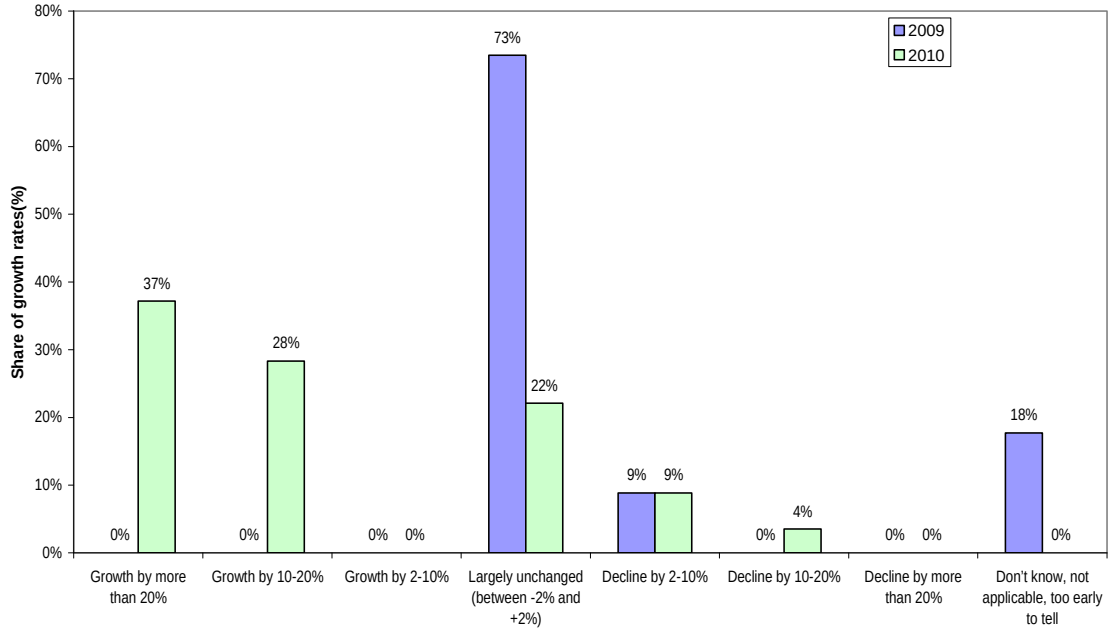
Appendix figure 35: Energy - Change in growth rates of home filings (in percent)



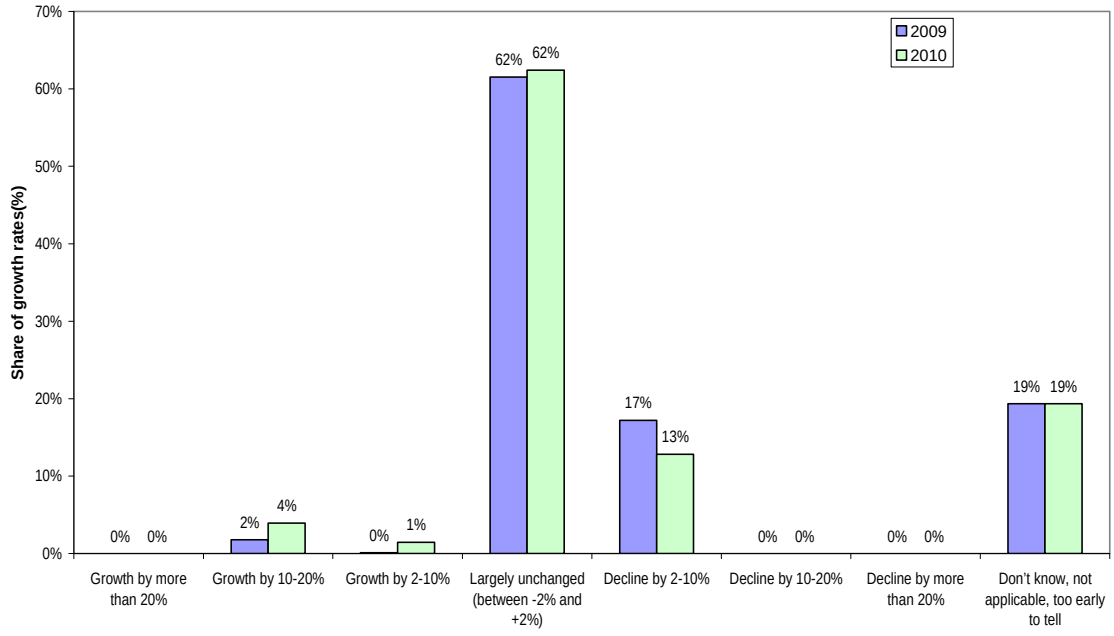
Appendix figure 36: Machinery and equipment - Change in growth rates of home filings (in percent)



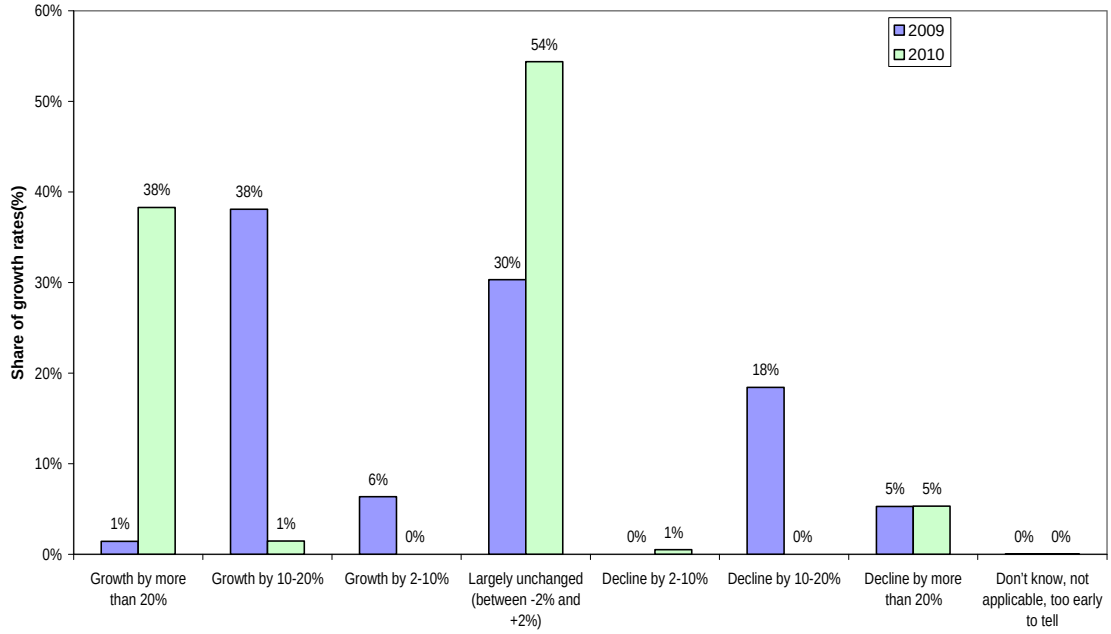
Appendix figure 37: Biotechnology - Change in growth rates of filings abroad (in percent)



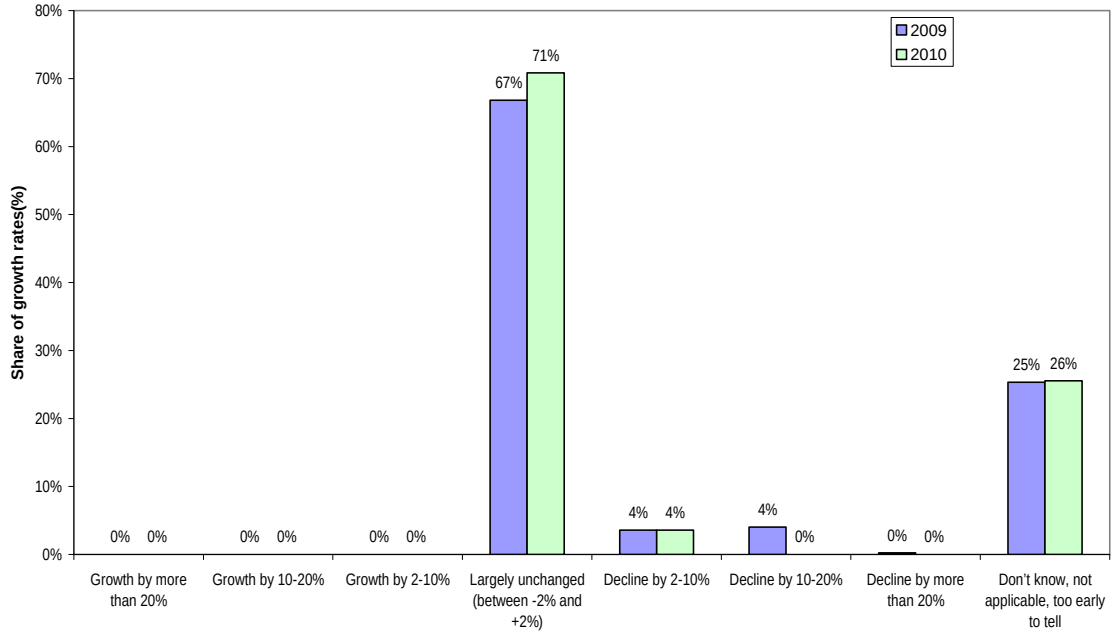
Appendix figure 38: Chemicals - Change in growth rates of filings abroad (in percent)



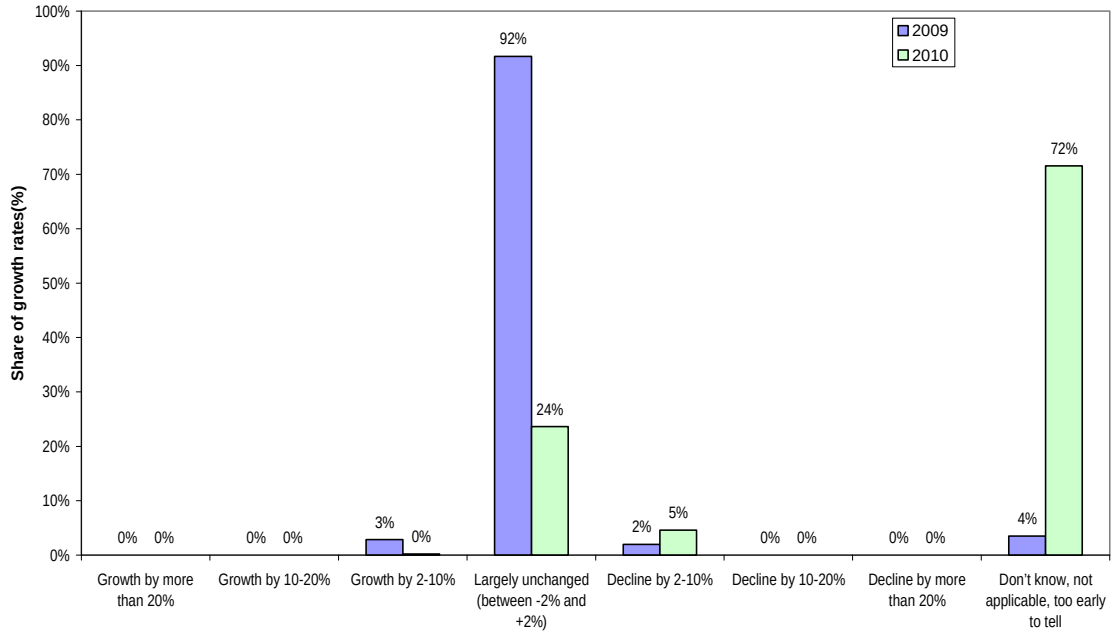
Appendix figure 39: IT (hardware) - Change in growth rates of filings abroad (in percent)



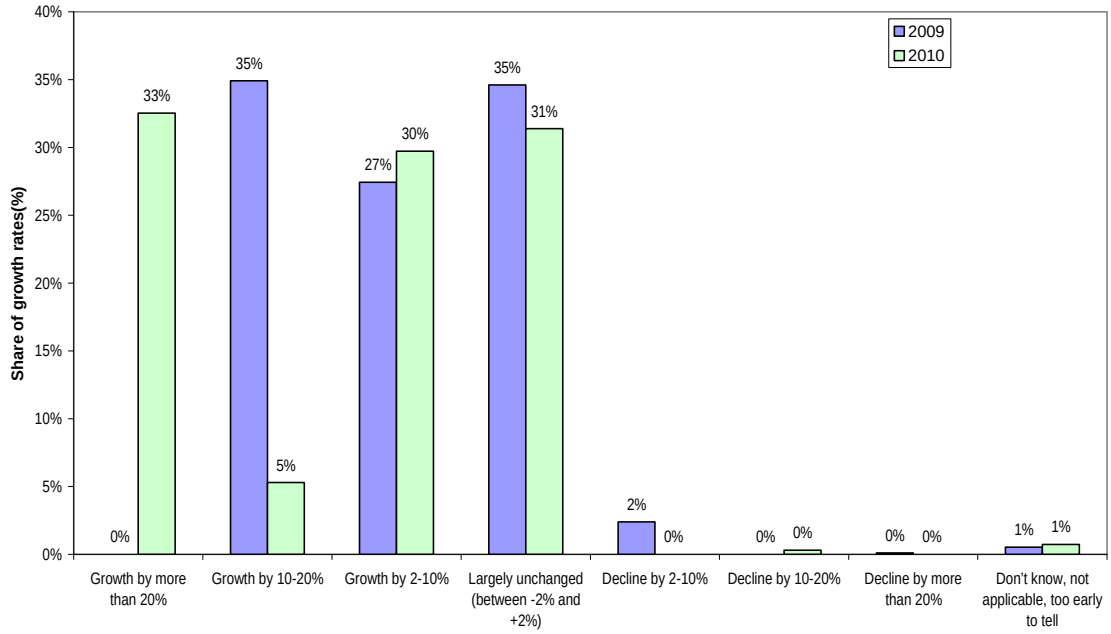
Appendix figure 40: Pharmaceutical - Change in growth rates of filings abroad (in percent)



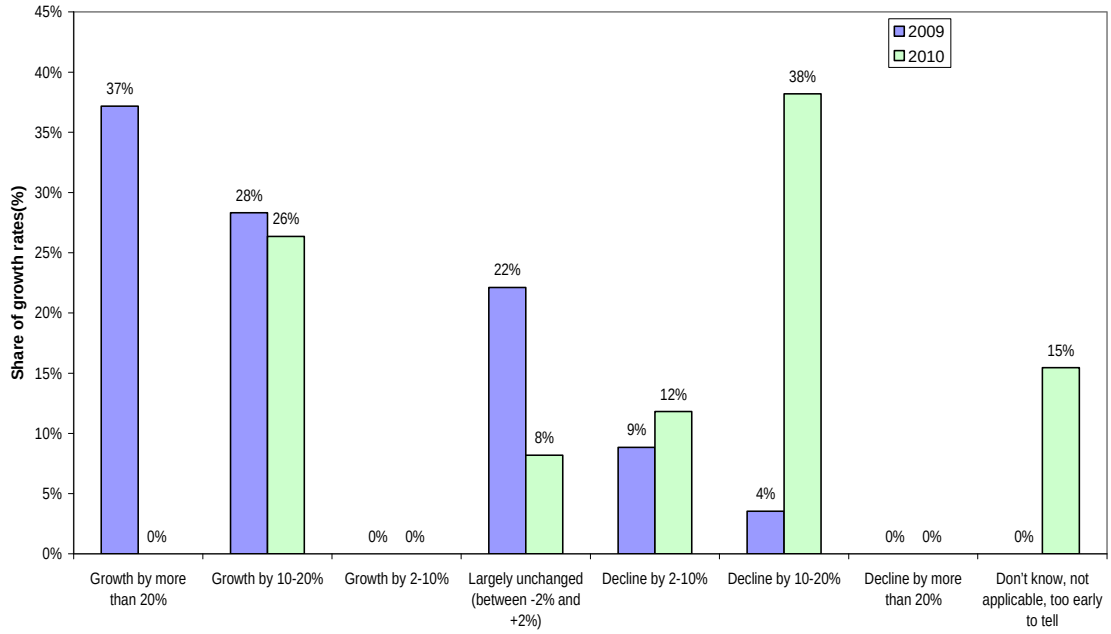
Appendix figure 41: Energy - Change in growth rates of filings abroad (in percent)



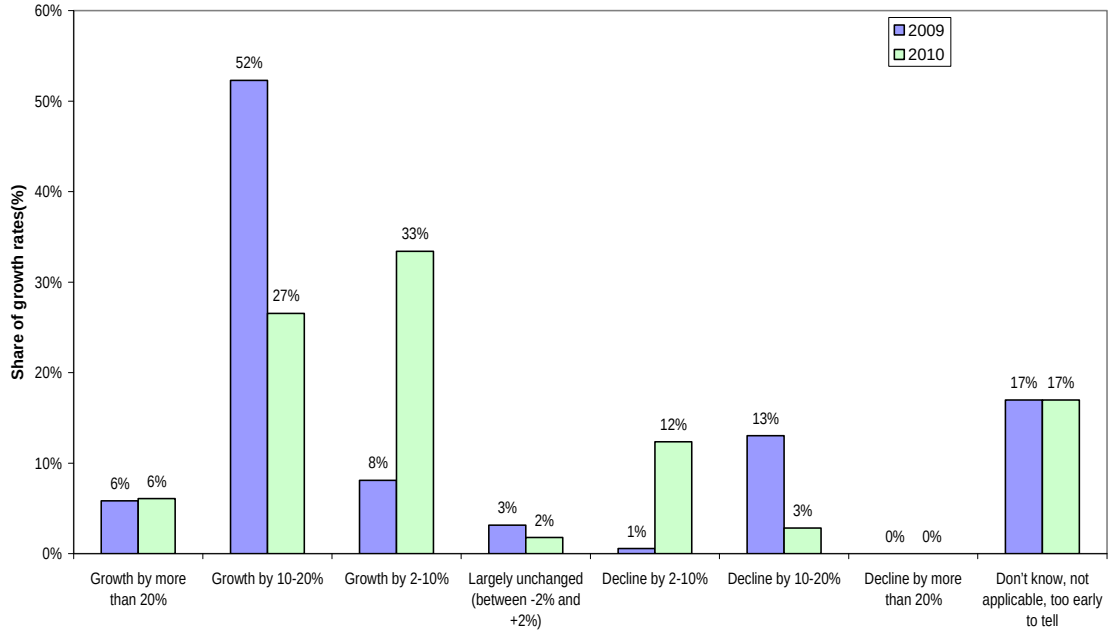
Appendix figure 42: Machinery and equipment - Change in growth rates of filings abroad (in percent)



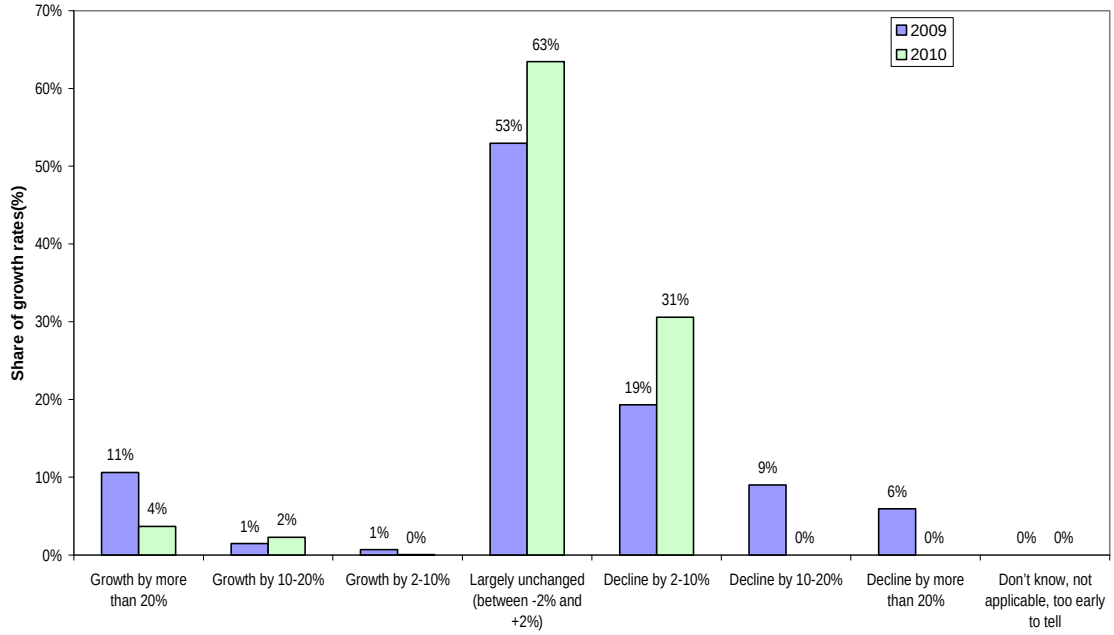
Appendix figure 43: Biotechnology - Change in growth rates of IP expenditures by growth category (in percent)



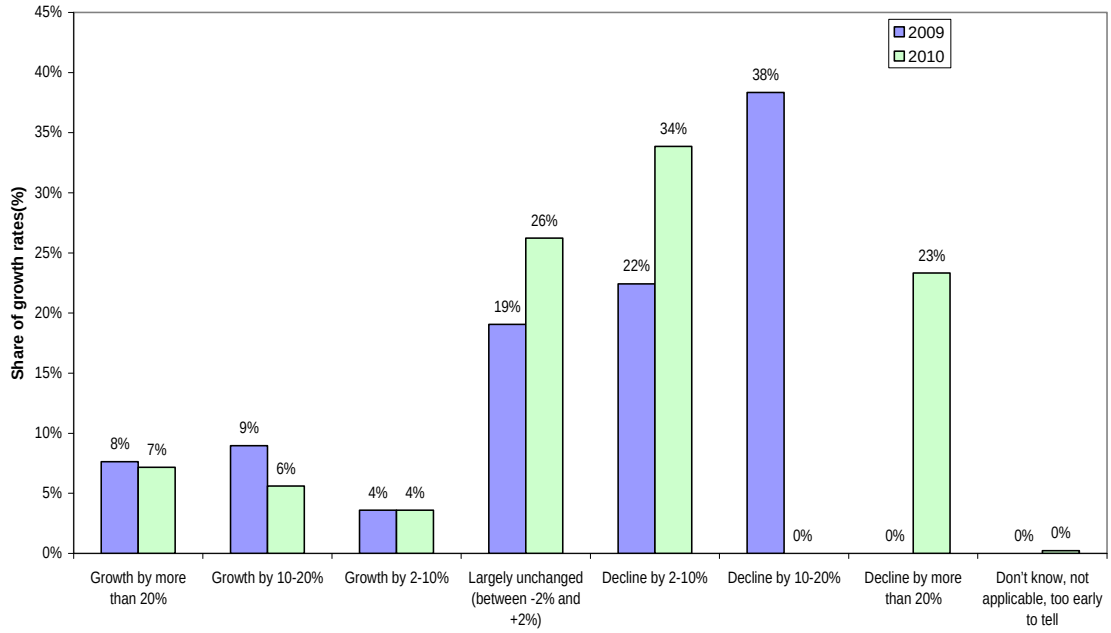
Appendix figure 44: Chemicals - Change in growth rates of IP expenditures by growth category (in percent)



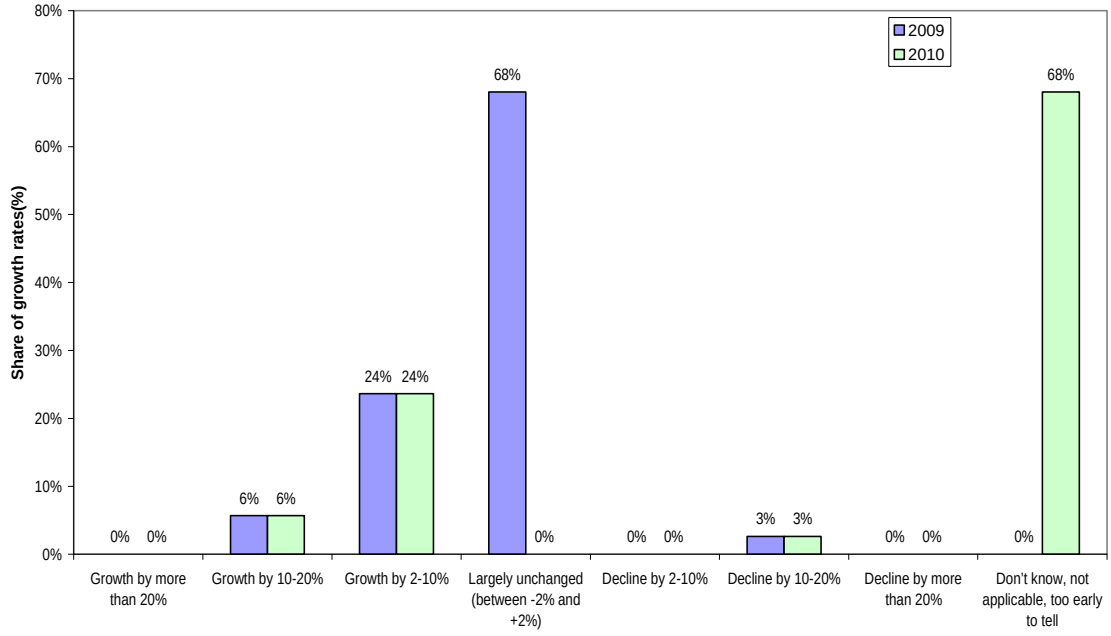
Appendix figure 45: IT (hardware) - Change in growth rates of IP expenditures by growth category (in percent)



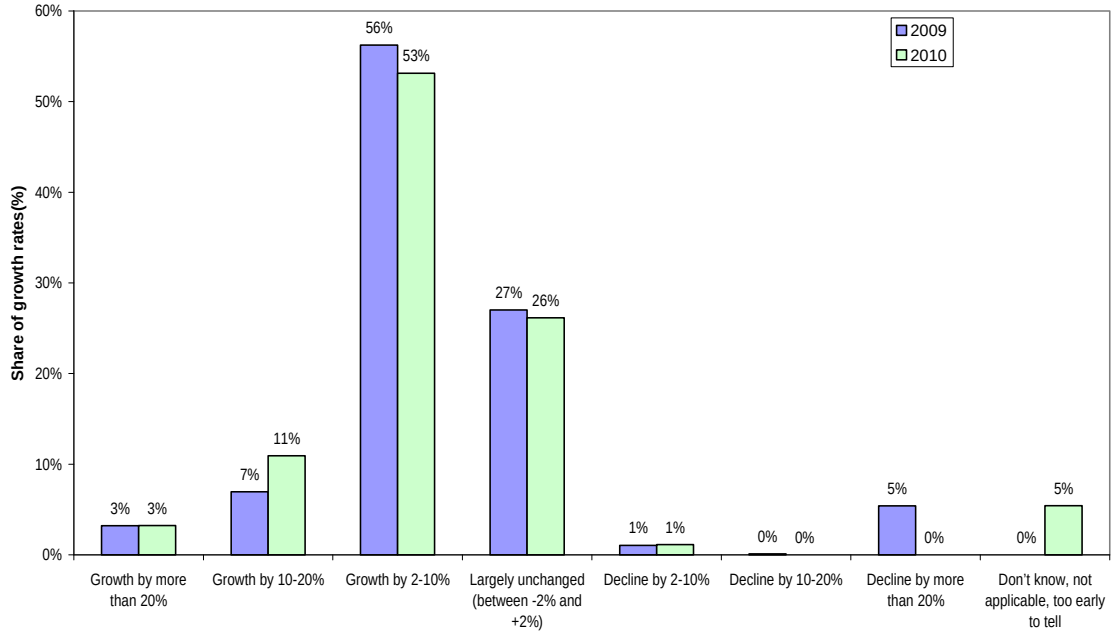
Appendix figure 46: Pharmaceutical - Change in growth rates of IP expenditures by growth category (in percent)



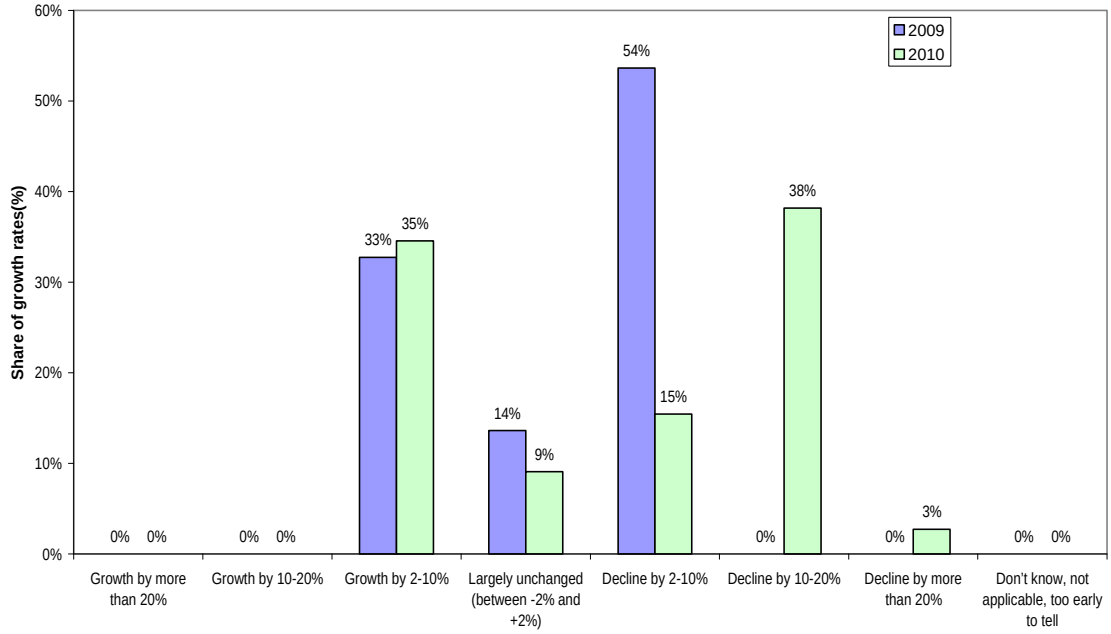
Appendix figure 47: Energy - Change in growth rates of IP expenditures by growth category (in percent)



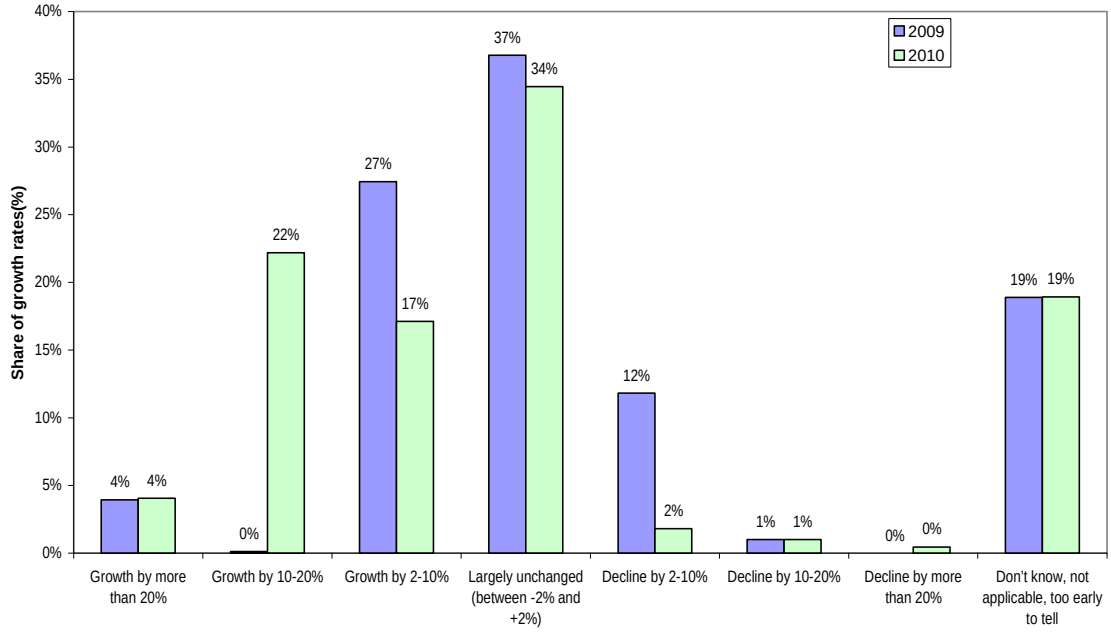
Appendix figure 48: Machinery and equipment - Change in growth rates of IP expenditures by growth category (in percent)



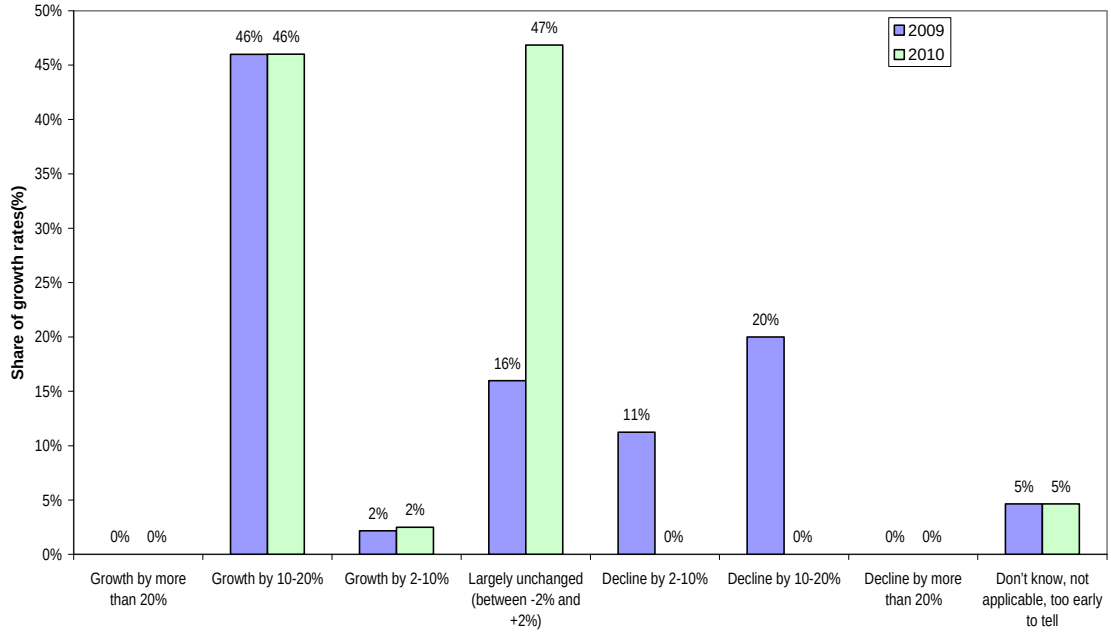
Appendix figure 49: Biotechnology - Change in growth rates of R&D expenditures by growth category (in percent)



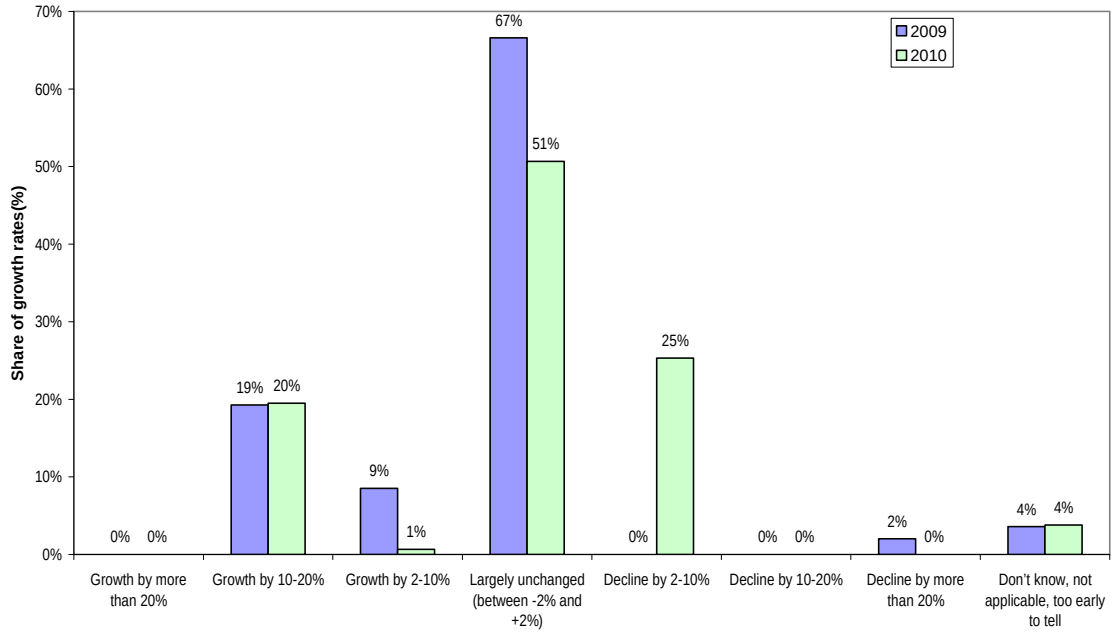
Appendix figure 50: Chemicals - Change in growth rates of R&D expenditures by growth category (in percent)



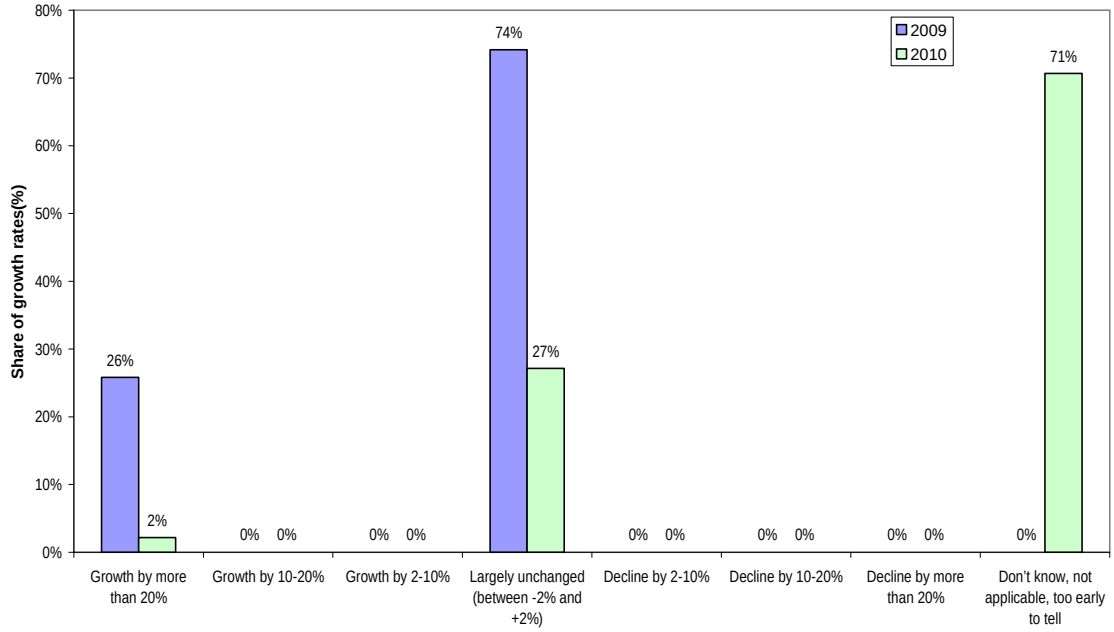
Appendix figure 51: IT (hardware) - Change in growth rates of R&D expenditures by growth category (in percent)



Appendix figure 52: Pharmaceutical - Change in growth rates of R&D expenditures by growth category (in percent)



Appendix figure 53: Energy - Change in growth rates of R&D expenditures by growth category (in percent)



Appendix figure 54: Machinery and equipment - Change in growth rates of R&D expenditures by growth category (in percent)