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The Needs of Data Users and the Future of the System of National Accounts

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By Brent R. Moulton* and Carol E. Moylan
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1. Introduction:

The *System of National Accounts 1993* (SNA) is an integrated set of standards for national accounts that is followed by most countries. These standards provide the concepts that determine, for example, what types of productive activities are included in gross domestic product and which assets are counted in gross fixed capital formation. These standards are currently under review and an update is planned for 2008.

At its last meeting, the Advisory Expert Group on National Accounts discussed the desirability of obtaining feedback from users of the national accounts. With that goal in mind, Brent Moulton and Carol Moylan of the Bureau of Economic Analysis, along with Karen Wilson of Statistics Canada, prepared a consultation on the SNA revision and sent it to a small number of knowledgeable key data users (up to about 30 people in each country) in both the public and private sectors. [1] We also shared this instrument with other countries so that they could use it in their countries to elicit feedback on the SNA revision and we asked that the results be sent to us to compile. The consultation, which was prepared in both English and in French, elicited input and suggestions on priorities and topics for the updating of the guidelines. Each question was accompanied by an explanatory footnote. A copy of the consultation is shown in Appendix *D.*

This paper summarizes the 61 responses we received from data users in 11 participating countries. [2] Responses were tabulated by country and by principal type of employment. Appendix table A summarizes the responses by geographic region (Europe, Northern America, and "Other countries") and appendix table B summarizes the responses by types of employment (central bank, central/provincial government, universities and research centers, and "other"). [3] The authors will update this paper to incorporate additional user responses that are provided to us by the end of September, 2004.

This survey was an extremely useful first step in understanding the needs of users of national accounts. The authors suggest that statistical offices follow up in their countries by either sending this consultation instrument to their key users or developing one on their own to send. As noted above, the sample size was small and this was not a scientific survey, so the results described in this paper are very tentative, particularly the breakdowns by geographic region and by type of employment. We recognize that the weights would change if we had responses from heads of all international organizations, from heads of the major national statistical offices, from the chairs of

[2] For a list of the respondent nations and the number of respondents by region, please see appendix table C.
[3] "Other countries" consist of respondents from Africa, Asia, and Latin America and the Caribbean.

statistical advisory boards, and from presidents of major business groups. We at BEA know that we would get a wide range of responses if we sent this instrument to all of the members of our Advisory Group.

Yet, the responses from this consultation do highlight a clear trade-off between improved accuracy and expansion of the accounts, with the majority of respondents choosing improved accuracy. With scarce resources, statistical offices must often make that trade-off. If expansion gets us into areas of greater uncertainty, we will lower accuracy. For the United States, these trade-offs have implications for adding new satellite accounts.

2. Background:

SNA 1993 marked a watershed in national accounts. For several years after its publication, the statistical community focused on implementation and explanation of the new accounts. However the SNA's prefatory section, "Perspectives on the 1993 SNA: Looking Back and Looking Ahead," recognizes that a number of unresolved issues would require additional research. Among the topics mentioned are the cost of capital owned and used by government and nonprofit institutions serving households, consumer subsidies, environmental accounting, output of services, including services produced within households, and the scope of capital formation, such as treating research and development and education as capital (SNA, p. xliii).

In 2002, two papers that proposed undertaking a review of unresolved issues in national accounting—Edwards, Comisari, and Johnson (2002) and Moulton (2004)—were presented at the International Association for Official Statistics conference on "Official Statistics and the New Economy" in London, and at the OECD National Accounts Experts' Meeting in Paris. These papers emphasized that the world's economy had changed over the preceding ten years, and that there had been important developments in economic accounting, particularly with respect to accounting for assets, that had not been foreseen during the creation of *SNA 1993*. These papers also emphasized that if the accounts were to remain relevant to their users, they must adapt to changes in the environment and developments in economic theory. Subsequently, in March 2003, the UN Statistical Commission agreed to undertake a revision of the System of National Accounts, which is scheduled for completion in 2008.

The importance of knowledge and human capital to economic development has long been recognized by economists, but inclusion of such measures in the core accounts has been considered controversial. The authors of *SNA 1993* agreed to capitalize software development, artistic originals, and mineral exploration, but failed to reach agreement on the capitalization of research and development. However, spending on research and development is quite similar to development of software originals, and the decision not to include it apparently was made on practical rather than conceptual grounds. The importance of research and development has increased in recent years, with many important new developments in information and bio-medical technologies. The agenda for the SNA review includes an effort by the Canberra II Group on Measurement of Non-financial Assets to develop recommendations on capitalization of research and development (United Nations, 2004).

It has also been difficult for national accountants to keep up with developments in information technology. National statistical offices have not always been consistent in

accounting for quality change in price indexes, which has led to concerns about the international comparability of economic data. Accompanying some of the developments in technology have been long-term contractual arrangements, such as mobile phone licenses, that have raised fundamental questions about asset boundaries and accounting principles. The Canberra II Group has also been charged to review some of these issues.

Financial industries and markets are another area of economy that has undergone substantial transformation over the last decade or two. Activities of financial intermediaries have evolved and often these institutions bear little resemblance to the traditional commercial bank that is the focus of the SNA's treatment of financial intermediation. The terrorist attacks of September 11, 2001 led to large claims for property and casualty insurance, which pointed to flaws in the SNA approach to measuring the services of non-life insurance. The aging of the population in many countries has focused attention on accounting for pension plans, particularly how to account for the obligations of unfunded or under-funded plans. Several task forces have been organized by the OECD and the IMF to examine these topics.

Since the publication of SNA 1993, the OECD has published handbooks on measurement of capital and productivity. These handbooks incorporated developments in economic theory that provide tools for measuring the services provided by capital assets in production. Several countries have adopted these measures in their official statistics, and there is an interest in including these services in the SNA production account. Furthermore, the SNA's treatment of military weapon systems as consumption expenditures has been increasingly questioned as inconsistent with the general treatment of general government assets and defense expenditures in the system. The Canberra II Group has been examining these topics.

Another example of a changing economic environment and evolving mechanisms for dealing with risk is the increasing importance of employee stock options as a form of compensation. The financial accounting standards have been slow to acknowledge these payments as an expense, which has led to problems, and in some cases large revisions, as national accountants attempt to deal with this type of transaction. With recent developments in international financial accounting standards, it is also time to adopt a modern treatment of these options in the national accounts.

Which of these (or other) topics should be priorities in updating of the SNA? When the UN Statistical Commission agreed to undertake an update of SNA 1993, it emphasized that candidate issues for updating are those that are widely demanded by users (Intersecretariat Working Group on National Accounts, 2003). The remainder of this paper will attempt to provide a first attempt to answer that charge; we are not aware of any previous consultation with users that has been international in scope. The consultation was intended to provide an opportunity for key data users to communicate their priorities for making improvements to the international guidelines and the practical implementation of the national accounts.

3. **Consultation instrument:**

The consultation instrument consists of three parts. Part one describes 20 possible changes to the national accounts that respondents were asked to rate as either very

important, important, moderately important, somewhat important, or not important.[4] These 20 possible changes were organized into six major categories: Measurement of nonfinancial assets, measurement of financial assets, employee compensation and other income, integration/harmonization with other statistics, satellite accounts, and quality and timeliness of data. Part two asked respondents to give their top three priorities for change. Users were not asked to limit their responses to the 20 possible changes listed in part one. Part three consisted of two questions on what would be the most important enhancement to the accounts and what would represent the best strategy for applying revisions to the accounts. For each question, respondents were asked to pick one of two choices.

In order to summarize the responses for analysis, a numerical score was given to each response, allowing the possible changes to be ranked. Responses of "very important" or "important" were given a score of 3; "moderately important" or "somewhat important" were given a score of 2, and "not important" was given a score of 1.[5] In preparing this analysis, we treated possible changes with summary scores over 2.75 as high priority changes and those with scores under 2.25 as low priority changes.

4. **Major findings:**

What do users want? Overall, respondents rated the following potential changes to the national accounts as most important to them:
- Improve the measurement of the current accounts
- Improve quality adjustments of prices
- Provide more information on methodologies and data sources

Almost 9 out of 10 respondents preferred that statistical agencies improve the measurement of the current accounts over expanding the scope of the national accounts and about 8 out of 10 respondents listed improved prices or more information on methodologies and source data as either very important or important.

What priorities have the lowest importance to users? Respondents rated the following potential improvements as the least important to them:
- Provide an accounting for loan guarantees in the financial accounts and balance sheets
- Treat expenditures for durable military weapons equipment used in production of defence services for more than one year as capital formation rather than as intermediate consumption
- In calculating the output of general government, include a rate of return to government-owned fixed assets

Overall, less than 3 in 10 respondents rated these changes as very important or important. In addition, one third of respondents rated loan guarantees as not important and one quarter of respondents rated durable military equipment as not important.

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[4] For presentation purposes, the five choices were collapsed down into three parts: very important/important, moderately important/somewhat important, and not important/no response.
[5] Non responses were ignored.

Relative importance varied somewhat by geographic region. For example, 100 percent of European respondents rated improved harmonization of methods across countries as important, while only half of the remaining respondents thought that harmonization was important. This strong user interest in harmonization is reflected in the efforts by Eurostat to harmonize the national accounts of countries in the European Union. In another example, 71 percent of European respondents rated as not important the treatment of consumer durable goods as capital formation and none rated this priority as important; this issue was rated much higher in Northern America, with 42 percent of respondents rating it important and only 13 percent rating it as not important.

Relative importance also varied by type of employment. For example, 100 percent of respondents from central banks and from academia rated improved quality adjustments of prices as very important or important, while two-thirds of the remaining respondents thought them important. Academics were more interested than any other group in developing both a health expenditure and a human capital satellite account.

For respondents from "other countries," improving the quality adjustment of prices had the highest relative importance, with over 90 percent of respondents rating improved prices as very important or important. For the European respondents, only "improved harmonization of national accounts across countries so that similar methods are being used" was more important. For the Northern Americans, three other potential changes were rated slightly higher.

5. Detailed findings:

The findings may be broken down into 5 broad categories: Measurement of assets, employee compensation and other income, integration/harmonization with other statistics, satellite accounts, and quality and timeliness. The remainder of the paper will provide more detail for each of these categories.

5.1. <u>Measurement of assets</u>
Chart 1 summarizes responses on the measurement of financial and nonfinancial assets. This grouping contains the four lowest ranked priorities: Accounting for loan guarantees (1.92), durable military equipment as capital formation (2.00), consumer durable goods as capital formation (2.05), and a rate of return to government-owned fixed assets (2.13).

Respondents scored "accounting for loan guarantees in the financial accounts and balance sheets" as the lowest overall priority with an overall score of 1.92 and with only 25 percent of respondents rating it as important and 33 percent rating it as not important. Despite its low overall priority, loan guarantees were among one of the top 5 priorities for European respondents.

Respondents also scored "treating expenditures for durable military weapons equipment used in production of defense services for more than one year as capital formation rather than as intermediate consumption" as a very low priority with an overall score of 2.00. While Northern Americans rated this possible change higher than did all other respondents, it still ranked as one of their lowest five priorities. The United States response may be difficult to interpret since (as noted in the footnote for this question) the United States already capitalizes these expenditures.

Chart 1: Measurement of Financial and Non-financial Assets

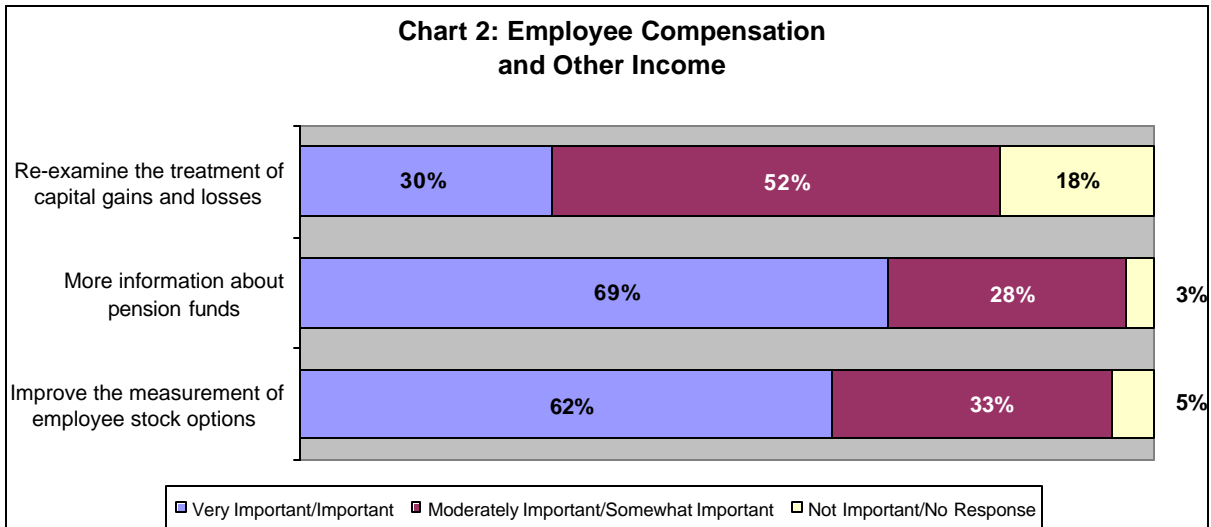|	Very Important/Important	Moderately Important/Somewhat Important	Not Important/No Response
Accounting for loan guarantees in the financial accounts and balance sheets	25%	43%	33%
Treat expenditures for durable military weapons equipment as capital formation	28%	44%	28%
Recognize and add measures of capital services	48%	39%	13%
Include a rate of return to government-owned fixed assets	26%	61%	13%
Treat consumer durable goods as capital formation	34%	36%	30%
Treat expenditures for R&D as capital formation	49%	43%	8%

User response to the "treatment of consumer durable goods other than owner-occupied housing as capital formation rather than as final consumption expenditures" showed one of the largest disparities by geographic region. About 7 in 10 European respondents rated a new treatment of consumer durable goods as not important and none rated this priority as important. Consumer durable goods was rated much higher in Northern America, with 4 in 10 respondents rating this possible change as important and only 6 percent rating it as not important. The remaining responses fell somewhere in the middle.

User response to the "modification of the production account of the SNA to recognize and add measures of capital services" showed large disparities by both geography and by type of user. About 7 in 10 European respondents rated this modification as not important, while 86 percent of academics rated this as important, and no academic user rated this question as not important.

Although it received an average rating overall, central bank respondents ranked the "treatment of expenditures for research and development (R&D) as capital formation (the creation of scientific originals) rather than as intermediate consumption" as one of their top five priorities. The majority of respondents considered "in calculating the output of general government, include a rate of return to government-owned fixed assets" either moderately or somewhat important.

5.2. Employee compensation and other income

Chart 2 summarizes responses on the employee compensation and other income. Within the category, respondents were most interested in "providing more information about pension funds and their role in national saving." About 7 in 10 respondents rated this possible change as important and it received an overall score of 2.66. Only 2 of the 61 users who responded thought that this possible change was not important.
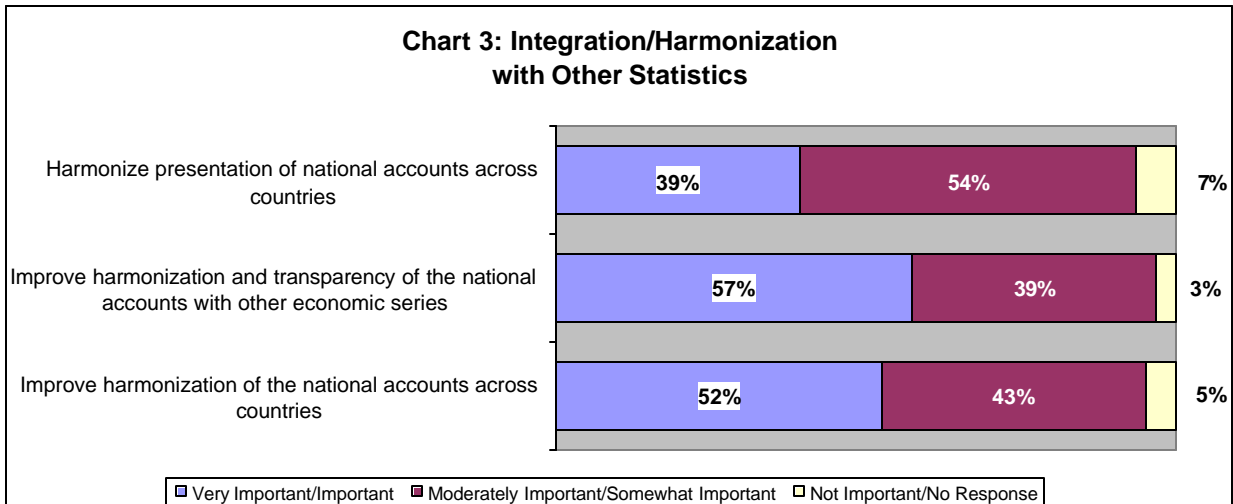
**Chart 2: Employee Compensation
and Other Income**

	Very Important/Important	Moderately Important/Somewhat Important	Not Important/No Response
Re-examine the treatment of capital gains and losses	30%	52%	18%
More information about pension funds	69%	28%	3%
Improve the measurement of employee stock options	62%	33%	5%

Although it received an average overall rating of 2.57, academics and Northern Americans rated "improve the measurement of employee stock options as they relate to employee compensation" as one of their top priorities. This is not a surprising response from users of U.S. national accounts, since the expensing of employee stock options had a significant impact on the growth of compensation of employees in the late 1990's and early 2000's, and the timing of when source data that included these options entered the national accounts was a source of significant revisions to compensation for those years.

To "re-examine the treatment of capital gains and losses, which are currently excluded in the income flows measured in the national accounts" received a very low score of 2.12, reflecting that the majority or respondents rated this possible change as only either moderately or somewhat important and nearly1 in 5 respondents considered it not important. There was some geographic disparity with no European respondent rating "re-examining the treatment of capital gains" as important, while almost half of Northern American respondents did.

5.3. Integration/harmonization with other statistics

Chart 3 summarizes responses on integration/harmonization with other statistics. Within the category, harmonization with other economic series was rated as the most important possible change overall, although there were some geographic disparities. About 2 in 3 Northern American respondents rated "harmonization and transparency of the national accounts with other economic series" as important, reflecting the push in the United States to improve such integration, particularly between the national accounts and the financial accounts. About one-half of the non-Northern American respondents rated this harmonization as important.
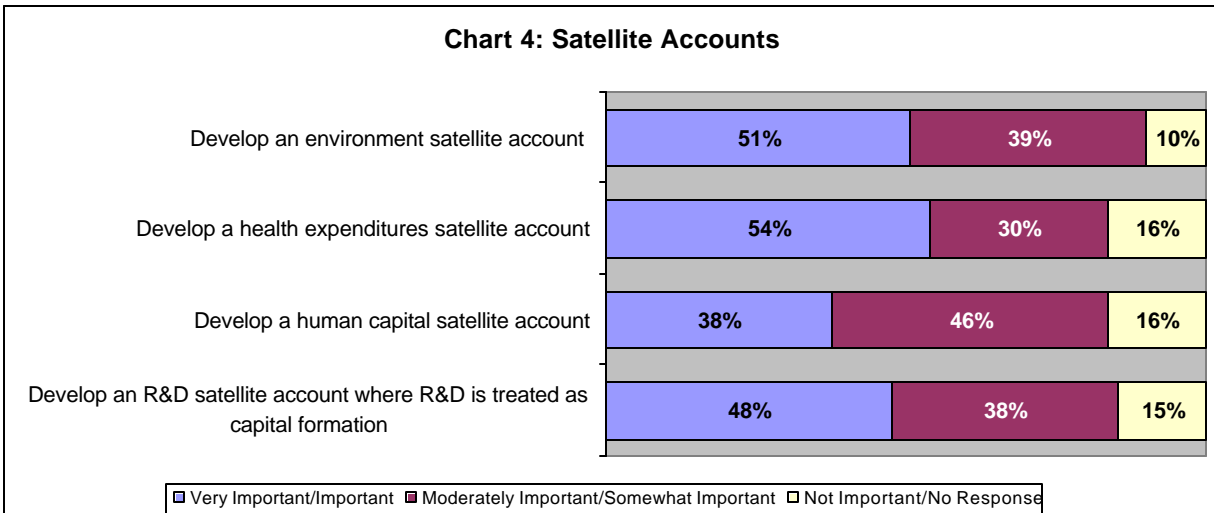
**Chart 3: Integration/Harmonization
with Other Statistics**

Category	Very Important/Important	Moderately Important/Somewhat Important	Not Important/No Response
Harmonize presentation of national accounts across countries	39%	54%	7%
Improve harmonization and transparency of the national accounts with other economic series	57%	39%	3%
Improve harmonization of the national accounts across countries	52%	43%	5%

□ Very Important/Important ■ Moderately Important/Somewhat Important □ Not Important/No Response

The geographic disparity was even more pronounced for "improving the harmonization of the national accounts across countries so that similar methods are being used." Every European respondent rated improved harmonization across countries as important, while only half of the remaining respondents thought that this harmonization was important. As stated earlier, this strong European user interest in harmonization is reflected in the efforts by Eurostat to harmonize the national accounts of countries in the European Union. Interestingly, only 1 in 4 respondents from central banks rated this harmonization as important.

Similarly, about 7 in 10 European respondents rated "harmonize the presentation of national accounts across countries" as important, while only 1 in 3 remaining respondents thought this harmonization important. Part of the low score for Northern America may reflect that the United States recently completed a reorganization of their presentation of national accounts to improve international comparability.

5.4. Satellite accounts

Chart 4 summarizes responses on developing satellite accounts. Respondents rated a human capital satellite account as the least important satellite account to develop. European respondents were particularly uninterested in developing such an account with nearly half of the respondents rating the development of such an account as not important. Academics were the most interested in such an account with 7 in 10 rating such an account as important.

The response from users on the importance of an R&D satellite account was very similar to their response to treating R&D as capital formation within the main accounts. Interestingly, respondents seemed to rate treating R&D as capital formation as slightly more important than as a satellite account.

Chart 4: Satellite Accounts

Category	Very Important/Important	Moderately Important/Somewhat Important	Not Important/No Response
Develop an environment satellite account	51%	39%	10%
Develop a health expenditures satellite account	54%	30%	16%
Develop a human capital satellite account	38%	46%	16%
Develop an R&D satellite account where R&D is treated as capital formation	48%	38%	15%

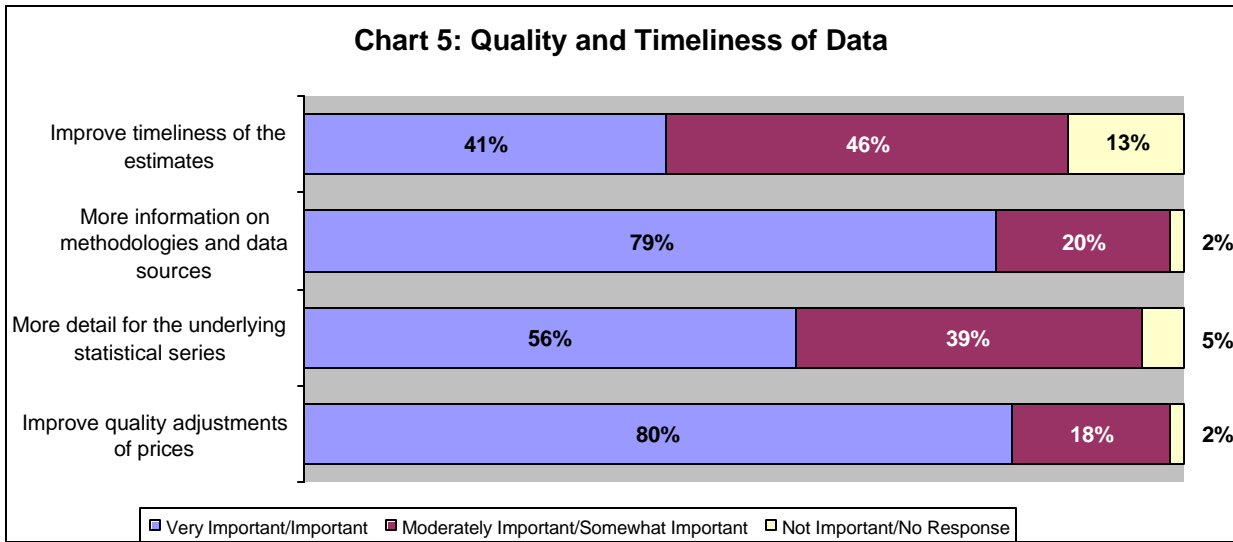☐ Very Important/Important ☐ Moderately Important/Somewhat Important ☐ Not Important/No Response

About half of all respondents rated the development of a health expenditures satellite account as important, but there were wide disparities among the groups of respondents. Every academic respondent rated this satellite account as important, while nearly half of European respondents thought it was not important.

While about half of all respondents rated the "development of an environment satellite account that takes into account the depletion of natural assets" as important, such an account was rated as one of the top 5 priorities for respondents from "other countries" and for "other" users.

5.5. Quality and timeliness of data

Chart 5 summarizes responses on the quality and timeliness of data. This grouping contains the 2 highest of the 20 ranked priorities: Improve quality adjustments of prices (2.79) and more information on methodologies and data sources (2.77). Eighty percent of respondents rated the improvement of quality adjustments to prices as important. All respondents from central banks and from academia and 9 out of 10 respondents from "other" countries rated price improvements as important. Similarly, 79 percent of respondents rated more information on methodologies and data sources as important. Only the academic respondents did not highly score this change.

Chart 5: Quality and Timeliness of Data

Category	Very Important/Important	Moderately Important/Somewhat Important	Not Important/No Response
Improve timeliness of the estimates	41%	46%	13%
More information on methodologies and data sources	79%	20%	2%
More detail for the underlying statistical series	56%	39%	5%
Improve quality adjustments of prices	80%	18%	2%

Legend: ▫ Very Important/Important ▫ Moderately Important/Somewhat Important ▫ Not Important/No Response

Respondents scored "providing more detail for underlying statistics" as a lower priority with only 56 percent of respondents rating this change as important. Only 3 in 10 European respondents rated this as important, while 2 in 3 Northern Americans rated this as important. Although 4 in 10 respondents rated "improving the timeliness of the estimates (at the cost of accuracy/bigger revisions) as important, 7 in 10 respondents from "other" countries rated improved timeliness as important. Central government respondents scored improved timeliness particularly low with only 2 in 10 rating it as important.

5.6. Respondents top priorities:

As shown in the responses to the 20 questions discussed above, the top priorities for users varied considerably among the various groups of respondents. European respondents were the most uniform in their responses and their top priorities were primarily to improve the quality of accounts, to improve harmonization, and transparency across countries; to improve information on sources and methods; and to account for loan guarantees. European respondents also mentioned treating R&D as capital formation, price measurement, services lives of assets and hours worked measures. Northern American respondents were less uniform in their responses, although many responses were a variation on improved estimates, including to improve timeliness, to improve the measurement of stock options, to improve reliability of initial quarterly estimates, to improve price measurement, and to improve harmonization and presentation across countries. A few respondents also ranked as their top priorities the development of satellite accounts, more information on pension funds, a new treatment of capital gains, and adding measures of capital services. For "other countries," priorities included to reduce the non-response rate, to improve labour market statistics, to improve the quality and timeliness of data, to improve harmonization with other countries, to add satellite accounts, and to provide more training and resources for National Accounts staff.

For central bank respondents, priorities included to improve timeliness, and reliability of the estimates, to improve price measures, to add measures of capital services, to treat R&D as capital formation, to treat military weapons as capital formation, and to maintain the integrity of the current market-based structure of the national accounts. For central and provincial governments priorities included to improve quality of estimates, to improve harmonization, transparency, and presentation, to improve the measurement of stock options, to improve estimation of pension funds, and to develop satellite accounts. For academic users, top priorities included satellite accounts, improved accuracy, and more information on pension funds. For the "other" respondents, top priorities included to improve the quality of the accounts, to add satellite accounts, and improved measurement of prices.

5.7. Enhancements to the accounts:

The final questions offered users an opportunity to comment on general strategies for improving the accounts. It appears that most users are more concerned with improving the accuracy of measuring the accounts than with expanding the scope of the accounts. Seventy-five percent of users preferred "to improve the measurement of the current accounts" over "to expand the scope of the national accounts."

Seventy percent of users preferred that we apply incremental changes as the environment changes rather than apply several revisions to the accounts at once. These responses may reflect some concerns over the large number of changes that occurred with the introduction of the 1993 SNA and the extent of the associated revisions.

6. **Conclusion**

This small consultation of users of national accounts has been an extremely useful first step in understanding what users want. Based on a very limited number of respondents that answered this consultation instrument, we believe that users, recognizing the scare amount of resources that can be devoted to changes in the accounts, prefer the improved measurement of the current accounts over expanding the scope of the accounts. We discussed which issues respondents rated as important and which they rated as less important. As stated in the introduction, this ranking would probably change somewhat with a larger, more scientific sample. National account offices also need to know their users; we saw that relative importance of an issue varied by type of employment.

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Question	Response	ALL %	EUROPE %	NORTHERN AMERICA %	OTHER COUNTRIES %
Measurement of Financial and Non-financial Assets					
1. Treat expenditures for research and development (R&D) as capital formation (the creation of scientific originals) rather than as intermediate consumption.	I	49	29	42	65
	M	43	57	52	26
	N	8	14	6	9
2. Treat consumer durable goods other than owner-occupied housing as capital formation rather than as final consumption expenditures.	I	34	0	42	35
	M	36	29	45	26
	N	30	71	13	39
3. In calculating the output of general government, include a rate of return to government-owned fixed assets.	I	26	14	39	13
	M	61	71	55	65
	N	13	14	6	22
4. Modify the production account of the SNA to recognize and add measures of capital services.	I	48	29	58	39
	M	39	0	42	48
	N	13	71	0	13
5. Treat expenditures for durable military weapons equipment used in production of defense services for more than one year as capital formation rather than intermediate consumption.	I	28	29	29	26
	M	44	29	52	39
	N	28	43	19	35
6. Provide an accounting for loan guarantees in the financial accounts and balance sheets.	I	25	57	23	17
	M	43	43	52	30
	N	33	0	26	52
Employee Compensation and Other Income					
7. Improve the measurement of employee stock options as they relate to employee compensation.	I	62	29	74	57
	M	33	57	23	39
	N	5	14	3	4
8. Provide more information about pension funds and their role in national saving.	I	69	43	77	65
	M	28	57	23	26
	N	3	0	0	9
9. Re-examine the treatment of capital gains and losses, which are currently excluded in the income flows measured in the national accounts.	I	30	0	45	17
	M	52	86	39	61
	N	18	14	16	22
Integration/Harmonization with Other Statistics					
10. Improve harmonization of the national accounts across countries so that similar methods are being used.	I	52	100	42	52
	M	43	0	48	48
	N	5	0	10	0
11. Improve harmonization and transparency of the national accounts with other economic series.	I	57	43	68	48
	M	39	57	32	43
	N	3	0	0	9
12. Harmonize the presentation of national accounts across countries.	I	39	71	35	35
	M	54	14	61	57
	N	7	14	3	9
Satellite Accounts					
13. Develop an R&D satellite account where R&D is treated as capital formation, rather than as current expenditures.	I	48	29	42	61
	M	38	43	45	26
	N	15	29	13	13
14. Develop a human capital satellite account where education and training are treated as capital formation, rather than as current expenditures.	I	38	14	32	52
	M	46	43	52	39
	N	16	43	16	9
15. Develop a health expenditures satellite account.	I	54	43	61	48
	M	30	14	26	39
	N	16	43	13	13
16. Develop an environment satellite account that takes into account the depletion of natural assets.	I	51	29	42	70
	M	39	43	48	26
	N	10	29	10	4
Quality and Timeliness of Data					
17. Improve quality adjustments of prices.	I	80	86	71	91
	M	18	14	29	4
	N	2	0	0	4
18. Provide more detail for the underlying statistical series.	I	56	29	65	52
	M	39	57	29	48
	N	5	14	6	0
19. Provide more information on methodologies and data sources.	I	79	86	77	78
	M	20	14	23	17
	N	2	0	0	4
20. Improve the timeliness of the estimates (at the cost of accuracy/bigger revisions).	I	41	14	26	70
	M	46	86	58	17
	N	13	0	16	13
I = Very Important/Important M = Moderately Important/Somewhat Important N = Not Important/No Response					

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		Table B				
		Summary of Survey Results: By Type of User				
Question	**Response**	**All** **%**	**Central Bank** **%**	**Central Government** **%**	**Academics** **%**	**Other** **%**
Measurement of Financial and Non-Financial Assets						
1. Treat expenditures for research and development (R&D) as capital formation (the creation of scientific originals) rather than as intermediate consumption.	I	49	72	33	57	44
	M	43	28	52	43	44
	N	8	0	15	0	11
2. Treat consumer durable goods other than owner-occupied housing as capital formation rather than as final consumption expenditures.	I	34	39	22	57	44
	M	36	22	48	29	33
	N	30	39	30	14	22
3. In calculating the output of general government, include a rate of return to government-owned fixed assets.	I	26	6	30	43	44
	M	61	67	59	57	56
	N	13	28	11	0	0
4. Modify the production account of the SNA to recognize and add measures of capital services.	I	48	50	37	86	44
	M	39	39	44	14	44
	N	13	11	19	0	11
5. Treat expenditures for durable military weapons equipment used in production of defense services for more than one year as capital formation rather than intermediate consumption.	I	28	33	19	29	44
	M	44	33	56	57	22
	N	28	33	26	14	33
6. Provide an accounting for loan guarantees in the financial accounts and balance sheets.	I	25	17	33	14	22
	M	43	39	41	71	33
	N	33	44	26	14	44
Employee Compensation and Other Income						
7. Improve the measurement of employee stock options as they relate to employee compensation.	I	62	56	59	86	67
	M	33	39	33	14	33
	N	5	6	7	0	0
8. Provide more information about pension funds and their role in national saving.	I	69	67	67	71	78
	M	28	33	30	29	11
	N	3	0	4	0	11
9. Re-examine the treatment of capital gains and losses, which are currently excluded in the income flows measured in the national accounts.	I	30	11	30	29	67
	M	52	56	59	71	11
	N	18	33	11	0	22
Integration/Harmonization with Other Statistics						
10. Improve harmonization of the national accounts across countries so that similar methods are being used.	I	52	28	56	71	78
	M	43	72	33	29	22
	N	5	0	11	0	0
11. Improve harmonization and transparency of the national accounts with other economic series.	I	57	56	56	57	67
	M	39	44	41	43	22
	N	3	0	4	0	11
12. Harmonize the presentation of national accounts across countries.	I	39	28	44	29	56
	M	54	67	44	71	44
	N	7	6	11	0	0
Satellite Accounts						
13. Develop an R&D satellite account where R&D is treated as capital formation, rather than as current expenditures.	I	48	50	41	57	56
	M	38	22	48	43	33
	N	15	28	11	0	11
14. Develop a human capital satellite account where education and training are treated as capital formation, rather than as current expenditures.	I	38	39	30	71	33
	M	46	33	56	29	56
	N	16	28	15	0	11
15. Develop a health expenditures satellite account.	I	54	28	56	100	67
	M	30	56	26	0	11
	N	16	17	19	0	22
16. Develop an environment satellite account that takes into account the depletion of natural assets.	I	51	56	33	71	78
	M	39	39	52	29	11
	N	10	6	15	0	11
Quality and Timeliness of Data						
17. Improve quality adjustments of prices.	I	80	100	67	100	67
	M	18	0	33	0	22
	N	2	0	0	0	11
18. Provide more detail for the underlying statistical series.	I	56	56	48	43	89
	M	39	44	41	57	11
	N	5	0	11	0	0
19. Provide more information on methodologies and data sources.	I	79	83	81	57	78
	M	20	17	19	43	11
	N	2	0	0	0	11
20. Improve the timeliness of the estimates (at the cost of accuracy/bigger revisions).	I	41	56	22	43	67
	M	46	33	59	43	33
	N	13	11	19	14	0
I = Very Important/Important M = Moderately Important/Somewhat Important N = Not Important/No Response						

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Table C List of Participating Countries	
Geographic region:	**Respondents:**
Europe:	7
Austria	
Belgium	
Finland	
Norway	
Slovak Republic	
Northern America:	31
Canada	
United States	
Other countries:	23
Korea	
Malaysia	
South Africa	
Trinidad and Tobago	
Total	61

Consultation on Possible Improvements to the National Accounts

The 1993 System of National Accounts (SNA) is an integrated set of standards for national accounts that is followed by most countries. These standards provide the concepts that determine, for example, what types of productive activities are included in gross domestic product and which assets are counted in gross fixed capital formation. These standards are currently under review and an update planned for 2008.

As a major user of the national accounts, we would like to elicit your feedback in providing us with information reflecting your priorities for improvements to these accounts. Only a few key individuals in each country have been asked to participate, so your responses are very important. The results will be summarized statistically and presented in a paper to be presented at a meeting of the International Association for Research in Income and Wealth. Individual responses will not be disclosed.

Please check off one of the following based upon relative importance as priorities for the national accounts and send the edited copy by reply e-mail:

Measurement of non financial assets

1. Treat expenditures for research and development (R&D) as capital formation (the creation of scientific originals) rather than as intermediate consumption.[i]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

2. Treat consumer durable goods other than owner-occupied housing as capital formation rather than as final consumption expenditures.[ii]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

3. In calculating the output of general government, include a rate of return to government-owned fixed assets.[iii]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

4. Modify the production account of the SNA to recognize and add measures of capital services.[iv]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

5. Treat expenditures for durable military weapons equipment used in production of defense services for more than one year as capital formation rather than intermediate consumption.[v]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Measurement of financial assets

6. Provide an accounting for loan guarantees in the financial accounts and balance sheets.[vi]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Employee compensation and other income

7. Improve the measurement of employee stock options as they relate to employee compensation.[vii]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

8. Provide more information about pension funds and their role in national saving.[viii]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

9. Re-examine the treatment of capital gains and losses, which are currently excluded in the income flows measured in the national accounts.[ix]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Integration / harmonization with other statistics

10. Improve harmonization of the national accounts across countries so that similar methods are being used.[x]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

11. Improve harmonization and transparency of the national accounts with other economic series.[xi]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

12. Harmonize the presentation of national accounts across countries.[xii]

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Satellite accounts

13. Develop an R&D satellite account where R&D is treated as capital formation, rather than as current expenditures.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

14. Develop a human capital satellite account where education and training are treated as capital formation, rather than as current expenditures.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

15. Develop a health expenditures satellite account.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

16. Develop an environment satellite account that takes into account the depletion of natural assets.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Quality and timeliness of data

17.   Improve quality adjustments of prices.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

18. Provide more detail for the underlying statistical series.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

19. Provide more information on methodologies and data sources.

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

20. Improve the timeliness of the estimates (at the cost of accuracy/bigger revisions).

	Very important
	Important
	Moderately important
	Somewhat important
	Not important

Please rank your three highest priorities for improving the national accounts:

1.	
2.	
3.	

Which of the following would be the most important enhancement to the accounts?

	Expand the scope of the national accounts
	Improve the measurement of the current accounts

Which of the following would represent the best strategy for applying revisions to the accounts?

	Apply several revisions to the accounts all at once
	Apply incremental changes as the environment changes

Principal uses of national accounting data (please check as many as apply):

	Fiscal policy and public finance
	Monetary policy and banking
	International trade and capital markets analysis and policy
	Macroeconomic forecasting, analysis of business cycles
	Economic planning and development
	Analysis of industry productivity and long-run trends
	Microeconomic analysis (industrial organization, labor economics, etc.)

Type of employment:

	Central government
	Central bank
	Private business or financial institution
	University or research center
	International organization
	Other (specify)

Thank you for taking the time to fill out this consultation.

Footnotes

1. Research and development expenditure is currently treated as an expense of doing business – with the exception of software development and mineral exploration and development – which are treated as capital expenditures. Capitalizing R&D recognizes that it provides a service to the economy of more than one accounting period and is not "used up" in the production process. The major concern about capitalizing R&D is that a large proportion is pure scientific research, which will become general knowledge with no exclusive property rights attached to it. How do we put value to this? One possibility is to capitalize only applied research. Also, a proportion of R&D is unsuccessful. One could argue that this is knowledge capital – and there is value to knowing what does not work as well as what does. The question is really – is the role of R&D adequately reflected in the accounts now when expensed and if not, does the benefit of reflecting a longer term view of R&D outweigh the measurement issues?

2. Consumer Durables are also expensed in the national accounts. If changed, households would show investment in durables such as autos and furniture – reflecting the fact that they are not "consumed" in one accounting period. This would potentially change savings rates (increase savings) to reflect the fact that current income does not necessarily finance the purchase of durables but that some savings are used and some borrowing to finance these purchases over a longer time frame.

3. The value added of general government is currently measured as the sum of primary inputs – namely wages and salaries and consumption of fixed capital. This assumes that there is no rate of return to government owned capital employed in the economy. Should a rate of return be applied in order to make the valuation of government value added more equivalent to private sector output?

4. The production account of the SNA currently presents production as output less intermediate inputs and as the sum of primary incomes – labor, proprietors' income, rental income, interest, and corporate income. For the purposes of measuring productivity, the production account is more usefully broken down into labor services and capital services. This means allocating proprietors' income to labor and capital services.

5. Expenditures on durable military equipment are currently expensed by international convention in the SNA (Canada follows this convention but the US already capitalizes these expenditures). This treatment is somewhat of an inconsistency in the system in that "defense services" are officially part of government output – but only services from part of the capital used to deliver the services are counted in output.

6. Currently, loan guarantees are not treated as an asset or counterpart liability in the SNA due to the fact that there is an unknown nature to the eventual outcome. Business accounting would treat these as provisional assets and liabilities that are offset in the eventual outcome. Should SNA consider this treatment (No impact on GDP)?

7. Employee stock options (ESOs) are not reflected in the SNA although most countries have attempted to put them in as part of labor compensation. Business accounting is moving towards including them as an expense as well. The ideal accounting for SNA would be to account for ESOs at the time and value of the vesting date, and any change in value from vesting to the exercise date would be capital gain or loss. In practice, many countries will only have data available at the exercise date.

8. Pension fund accounting in the SNA accrues income to pension fund members as the income is earned by the funds. When a retiree receives pension benefits, this is a run down in savings and does not show up as an explicit flow in the household primary or secondary distribution of income account. This means that when the upcoming demographic shifts take place, the baby-boomers spending will be out of savings and run down of past savings and will not be out of disposable income. Would it be preferable to articulate these flows in a special account without changing the concept of accrual in the SNA.

9. Capital gains and losses do not show up in the SNA as income or savings but as a revaluation of the capital account. Most countries do not publish the revaluations explicitly and therefore in periods of inflation or deflation in capital markets, the effect of these redistributions of wealth is not evident. In some sectors of the economy, like insurance and financial services, capital gains and losses are sometimes used in the production of these services – but not included in the valuation because of the role of capital gains in the SNA in general. Should this be reconsidered?

10. SNA93 is an international guideline of countries to use in compiling national accounts but many differences exist among countries in interpretation and methods used to do the estimates. Should more resources be spent on harmonizing methods and interpretation as well as the general conceptual framework?

11. Improved harmonization and transparency of the national accounts with other economic series means more reconciliation tables with government and business accounts for example. How important is this in resource allocation?

12. Each country has its own presentation of national accounts data based largely on country conventions and history of the data products. Should more resources be allocated to harmonizing presentations across countries?