



IMPLEMENTING THE CAPITAL ACCOUNT IN SHA 2011

December 2012

Contact SHA.Contact@oecd.org



Health Division

www.oecd.org/health

Directorate for Employment, Labour and Social Affairs

ACKNOWLEDGEMENTS

The authors wish to thank the following for their cooperation in undertaking this study:

Rebecca Bennetts (Australian Institute of Health and Welfare), Alexandra Carvalho (National Statistical Institute Portugal), Cathy Cowen (Centers for Medicare & Medicaid Services), Gudrun Eggertsdottir (Statistics Iceland), Gilles Fortin (Canadian Institute for Health Information), John Henderson (Department of Health of the United Kingdom), Merav Katz (Central Bureau of Statistics Israel), Waltraud Kavlik (Statistik Austria), Jaroslav Zbranek (Czech Statistical Office). Valuable comments were also received from Eurostat, WHO and the participants of the 14th Meeting of National Health Account Experts.

This project was funded under EU contribution agreement 2011 53 01.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	2
Introduction.....	4
Background.....	4
Reporting of additional aggregates	5
Changes in assets.....	5
How is the acquisition of assets financed?.....	7
Remaining difficulties and limitations in reporting how investments are financed	8
Other aggregates included in the Capital Account.....	9
Does Chapter 11 help countries to improve the quality of existing data?.....	10
Conclusions and next steps	11
ANNEX 1 SHA CAPITAL ACCOUNT	12

Introduction

1. In an effort to test the understanding and the feasibility of reporting the various components of the capital account table¹ newly introduced into *A System of Health Accounts 2011*, the OECD invited OECD member countries to participate in a study. In response to an overall outline of the project and a series of bilateral exchanges, nine countries (Australia, Austria, Canada, the Czech Republic, Iceland, Israel, Portugal, the United Kingdom and the United States) provided feedback on the various methodologies, data sources they currently use, or could feasibly use, in order to report the various items of the proposed capital account, as well as identifying those parts that they envisage would be problematic in their reporting. In addition to the country responses, the OECD investigated various national and international data sources currently available that would allow for additional reporting, and analysed some aspects of the financing mechanism of capital acquisition, in particular for France and Germany.

2. From countries' experiences and independent research it was expected to build up a picture of which additional elements of the capital account could more feasibly be reported, and if the clearer definitions in the new chapter would improve the quality of the data reported which, in turn, should enhance international comparability of data on capital formation. After a background section, the remainder of this report takes us through the various aggregates and items of the capital account, highlighting the feasibility in reporting as well as the remaining difficulties. A third section considers the potential for improving existing reporting, before some concluding remarks in the final section.

Background

3. Reflecting the distinct treatment of current and capital spending and in an effort to avoid some of the previous ambiguities surrounding capital spending, the SHA 2011 manual introduced a new separate chapter on the accounting of capital formation in health systems. The aim of the chapter was thus to provide a clearer definition of the aggregate capital formation in health care systems, while proposing a new breakdown of capital formation by the type of assets (i.e. infrastructure, machinery, etc). Furthermore, a capital account has been developed in the chapter to allow the reporting not only of total expenditure on capital formation but also what sources have been used to fund the purchase of new assets.

4. The newly developed capital account table (Annex 1) can be divided in three parts. The recording of changes in assets expands the existing split of gross capital formation into health care providers to include the different components of gross capital formation and a classification of assets². This part also includes the acquisition of non-produced non-financial assets such as land. The recording of changes in net worth is a completely new element in SHA 2011. This part of the table may be used to report what financing mechanism that providers used to purchase their assets (including savings, grants, donations). If the value of the acquisition of assets exceeds the sum available resources, net borrowing will be recorded as balancing item. Finally, the capital account table has been complemented with some capital-related memorandum items, among them research and development in health and education and training of health personnel which have been considered as health related categories under SHA 1.0.

5. The capital account in SHA 2011 is a continuation and evolution of the existing data requests on capital formation (HCR.1) of the Joint Health Accounts Questionnaire (JHAQ) based on SHA 1.0. On the

¹ Table 11.2 in SHA 2011 and reproduced in Annex 1 of this report.

² A comprehensive definition of all items to be covered in the capital account is presented in chapter 11 of 2011 SHA manual

one hand, it continues to seek aggregate information on the acquisition of assets for each category of health care provider albeit differentiating clearly between gross capital formation and its various components.

6. On the other hand, it clarifies the reporting concerning the financing of the purchase of the assets. Data currently reported as capital formation of health care provider institutions broken down by financing agent/financing scheme are not comparable internationally because countries would appear to interpret this split differently. They use either the financing source of the investment or the ownership of the provider where the investment occurs as the deciding factor for the categorisation.

7. The capital account table overcomes this ambiguity as it clearly puts the focus on the *transactions* that finance the acquisition of assets and defines those transactions comprehensively. The new way of reporting is a precision of what had already been intended to be captured in the financing split of capital spending under current JHAQ. Thus, the two vectors that countries were asked to report under the JHAQ as capital formation can still be found in the new capital table.

Reporting of additional aggregates

8. Feedback from countries and the additional research undertaken by the OECD show that a limited number of additional aggregates can be reported. As the additional data reported by countries are typically derived from surveys, budget information or statistical systems that are regularly available, additional reporting of a limited number of new aggregates should not present a huge additional burden for compilers of health accounts. Moreover, one country reported that they would be in a position to recalculate capital spending including the additional aggregates for several years to achieve a medium-term consistent time series. Given the nature of the data used for their calculations of capital formation, it can be expected that a number of other countries could do the same.

9. In the remainder of this section, the various items for which additional reporting seems to be feasible for most countries are discussed. They include the breakdown of assets for the aggregate gross fixed capital formation – which is part of the recording of the purchase of assets – and capital transfers from the government, which are one method of financing the purchase. Additionally, possible data sources and data limitations will be discussed.

Changes in assets

Breakdown by type of assets

10. Most participating countries appear able to break down gross fixed capital formation³ into different assets, either for the total of health providers or for some individual provider categories⁴.

11. Among the main categories of assets, it seems relatively easier to separately identify infrastructure (HK.1.1.1) and machinery and equipment (HK.1.1.2). While, depending on data sources, intellectual property products (HK.1.1.3) are in some instances captured together with machinery and equipment. Some countries (e.g. Austria, the Czech Republic and the United States) are in a position to report also the second level of the assets classification, identifying particular types of machines or equipment in more detail.

³ Gross fixed capital formation is the most important component of gross capital formation (HK.1) The other components are changes in inventories (HK.1.2) and acquisition less disposals of valuables (HK.1.3)

⁴ Additionally, Norway and Sweden indicated they would also have this information available

12. In some cases (e.g. the United States), the identification of assets is limited to total health providers. Other countries were in a position to report the acquisition of assets at the 1st-digit provider level. The provider for which countries could most frequently identify the changes in assets were hospitals (HP.1) for which Canada, the Czech Republic, Israel and the United Kingdom would be in a position to report data. Changes in assets could be also be identified for most other providers – with the exception of retailers (HP.5) – by at least one county at a time.

Data Sources

13. For some countries (e.g. Austria, Canada, Israel, United States) information on assets comes from the data sources that are used for current reporting of capital formation under the Joint Health Accounts Questionnaire (JHAQ).

14. Canada, for example, uses data from a mandatory survey on capital and repair expenditures to report total capital expenditures on construction and machinery and equipment by the private sector and provincial and municipal governments. The survey can be evaluated for different industries at the 3-digit level of NAICS⁵, thus allowing Canada to report gross fixed capital formation and the assets infrastructure and machinery and equipment for hospitals (HP.1), residential long-term care facilities (HP.2), providers of ambulatory health care (HP.3) as well as for social service providers where health is provided as a secondary activity (included in HP.8). An even greater level of detail of assets is available from an extended version of the survey, but cannot be reported due to objections from the data holder.

15. Austria uses existing compilations from national accounts to report additional assets⁶. Calculation of investment in Austria differs between the public and private sector. In the public domain, the financial results of hospital of insurance funds and capital formation of the government with the purpose health according to COFOG⁷ are used to identify capital formation and the changes in assets. The calculation of private investment relates to institutional sectors non-financial corporations, households and non-profit institutions. Data on private investment refers to the branch 86 (“Human health activities”) of ÖNACE⁸; an estimation is carried out to capture capital formation of nursing care facilities which are part of branch 87 (“Residential care activities”). In applying this method, Austria can report infrastructure (HK.1.1.1), machinery and equipment (HK.1.1.2) and intellectual property products (HK.1.1.3) for the total of health care providers HP.1 to HP.4. Although assets could be attributed to the individual provider theoretically, Austria refrains from doing so due to concerns of data validity.

16. Other countries were able to identify new data sources that would allow them to report a breakdown of assets for particular providers. Using the NHS Trusts Summarized Accounts and the Consolidated Accounts for NHS Foundation Trust, the United Kingdom was able to construct the *full capital account* for NHS hospitals in England. The data sources comprise the financial position and cash flow of NHS hospitals which provide around 96% of all hospital beds in England. Concerning the changes in assets they could distinguish between tangible acquisitions (infrastructure and machinery and equipment) and intangible acquisitions (intellectual property products). The coverage could also be extended to include other parts of the United Kingdom and also to consider private hospitals for which detailed financial statements are also available.

⁵ North American Industry Classification System

⁶ It should be remember that national accounts are a statistical system and not a data source in itself

⁷ Classification of functions of government

⁸ ÖNACE is the Austrian version of the Statistical classification of economic activities in the European Community

17. For the Czech Republic, the OECD analysed the data availability independently with support of the Czech health accounts unit. The reason for this is that the Czech Republic is publishing information on capital formation and the types of assets at a great level of detail in international databases which are compiled by the national accounts. The level of detail of the underlying data sources would, however, permit the Czech Statistical Office to provide data on infrastructure (HK.1.1.1) and machinery and equipment (HK.1.1.2) and subcomponents of equipment as well as intellectual property products (HK.1.1.3) on a 3-digit level of NACE⁹ rev.2. This level of detail could potentially permit the country to report the acquisition of assets for a number of health providers individually in the capital account table of SHA 2011.

Remaining difficulties and limitations in reporting the type of assets

18. A number of limitations in the recording of net acquisitions of assets remain. Some countries (e.g. Canada, the United States) are only able to report the acquisition of assets as no data on disposals is available or data is not passed on from the data holder due to publication restrictions.

19. There may be boundary issues. Depending on the data sources used, figures for some countries refer to the health industry as defined in industrial classification (e.g. branch 85 in ISIC Rev. 3 or branches 86-88 in ISIC Rev.4) which are not identical to the ICHA-HP provider classification¹⁰. So data on capital formation of total providers can refer to a different set of providers between countries. For the allocation of these aggregated figures to the individual providers countries might investigate whether they can construct distribution keys based on appropriate secondary statistics.

20. Although no country seemed to be in a position to report data on retailers (HP.5) it did not appear to be entirely clear to what extent their capital formation should be included in the capital account, given that retailer also engage in non health-related activities. In this case it is recommended that only the acquisition of those assets are recorded that are used for the provision of health services.

21. There was also a need for clarification on how to record for assets acquired under financial and operational leasing. Assets acquired under financial leasing should be recorded in the capital account for the respective provider that leases the asset; the value of assets acquired under operational leasing, however should not be reported.

22. In one participating country, Israel, the identification of assets is restricted to investment from public providers and providers controlled by non-profit institutions. Other private investment cannot be accounted for currently. Limitations in coverage are also true for other countries. Under current reporting, e.g. the Czech Republic only records publicly funded investments.

How is the acquisition of assets financed?

23. Based on the research in international databases it appears that another item for which many countries seem to have data available are capital transfers¹¹.

⁹ NACE is the Statistical classification of economic activities in the European Community

¹⁰ The correspondence between ISIC and ICHA-HP is included in table A 1.10 in the annex of SHA 2011

¹¹ They consist of investment grants which can – by convention – only be made by the government or the rest of the world and other capital transfers which can be made by every institutional sector.

Data sources

24. Capital transfers can be the main source of financing for the acquisition of assets for some providers.

25. This is true, for example, for hospitals in Germany which receive these transfers from the regional governments. They can be identified easily in the corresponding budgets.

26. Another way to identify capital transfers can be done on an aggregated level. Government expenditure and its different components are published for the whole government sector (this means central, state and local governments and social security funds) and categorised according to its purpose in all OECD countries using the COFOG classification. The mapping of capital transfers – one of the elements of government expenditure – which are classified as “health” according to COFOG¹² to some health care providers as defined in ICHA-HP seems feasible. Analysing data that is available in international data bases show that e.g. Austria, the Czech Republic and Germany would be able to identify capital transfers to hospitals (HP.1), providers of ambulatory care (HP.3) and providers of preventive care (HP.6) as these providers could be mapped into corresponding COFOG categories on the 2nd-digit level. For other health providers the mapping would not be unambiguous.

27. For EU member states the reporting of general government expenditure by function is already part of routine and mandatory data submissions. They are included in Table 11 of the ESA 95 transmission programme as defined in Annex B of Council Regulation (EC) 2223/96 and subsequent amendments. Capital transfers have to be consolidated (this means that transfers between different government units are disregarded). Currently, data on COFOG group (2nd digit) level are submitted on a gentlemen’s agreement basis, but these items are expected to become mandatory when the revised ESA 2010 will be implemented in 2014. This should facilitate reporting of health-relevant capital transfers in the future.

28. Australia suggests using the Australia Government Financing Statistics to identify capital transfers to health providers. Australian GFS also categorized economic transactions according to their purpose. This government purpose classification differs, however, from COFOG. A mapping between the GPC and health care provider seems nevertheless feasible and this should allow Australia to report capital transfers for some health providers in the future.

29. Depending on the financing mechanisms of investments in countries some limitations in the use of aggregate and consolidated data might arise when capital transfers are made from one unit of the government sector (e.g. the Ministry of Health) to another unit within the same sector (e.g. a non-market producing hospital controlled by the government). As these transactions will be “lost” in consolidated data there would be a need to analyse these transactions in more detail for the individual provider.

Remaining difficulties and limitations in reporting how investments are financed

Savings

30. Data on savings from health providers used for the financing of assets seems not to be widely available and, if, at all, limited to some providers. Savings could, however, be identified in particular cases in France, Germany and the United Kingdom.

¹² Classification of functions of government

31. France has data on savings for public hospitals which are derived from a complete sequence of accounts in the SNA terminology¹³. Net savings are calculated as a balancing item adjusting the operating surplus for interest and current transfers.

32. In Germany, data on savings for general hospitals is available from a study analysing in-depth the financing mechanisms of the acquisition of assets¹⁴. Additionally, an estimation on savings has been conducted for long-term care institutions based on country-specific financing regulations¹⁵.

33. Constructing the entire capital account with the detailed financial results of NHS Trusts and NHS Foundation Trusts the United Kingdom would also be position to record net savings in hospitals.

Net lending/net borrowing

34. This balancing item can only be reported if all information exists on the value of the acquisition of assets, savings and capital transfers. That is the reason why data for this figure is usually not at hand in most countries, neither for individual providers not for health providers at large. However, one exemption is France that would be in a position to report this item – using the sequence of accounts explained above – for public hospitals.

Other aggregates included in the Capital Account

35. For a number of other aggregates that are proposed in the capital account some countries were able to report additional data.

Consumption of fixed capital

36. The existence of data concerning the consumption of fixed capital for health care providers has been analysed only by few countries. Limited feedback suggests that data could be available for the total of health providers and some health providers (e.g. hospitals) separately. The United Kingdom has data on this item and reported some unresolved issues in the case of impairments which are due to revaluation of assets.

Memorandum items

37. In addition to the changes in assets and changes in net worth and liability the capital account allows for the reporting of capital-related items. Apart from loans, accumulated savings and public-private partnership, SHA 2011 suggests to record research and development as well as education and training in the capital account, activities that were considered as health care related in SHA 1.0.

38. Only few countries took a look into the feasibility to report some new elements in this field, still, a couple of countries were able to report some of the new aggregates. A specific study concerned with the financing mechanism in German general hospitals would allow them to report what part of the financing comes from *loans*. These could also be defined by the United Kingdom, as well as public-private partnerships. The United Kingdom and the United States seem to be in a position to report expenses on

¹³ “Les hôpitaux du secteur public hospitalier de 2006 à 2009: quelques aspects comptables” dans comptes nationaux de la santé, DREES (2011)

¹⁴ Krankenhaus Barometer - Umfrage 2010, Deutsches Krankenhaus Institut (2010)

¹⁵ The estimations are based on a so-called “investment surcharge” which residents are required to pay to long-term care institutions. These facilities must use those revenue flows to finance the acquisition of assets; cross-financing of current costs with these revenues is legally prohibited. Together with the additional savings out of the current operations these transactions should be recorded as “savings” in the respective cell in the capital account table.

research and development financed from the government or by corporations. Expenses for *education and training* out of the NHS budget could be easily defined by the United Kingdom.

39. These results suggest that for most countries a limited number of additional aggregates seem to be available. The breakdown of gross fixed capital formation into types of assets and capital transfers are those elements where countries seem to have most additional information available. Some countries were able to cover an even greater set of new aggregates.

Does Chapter 11 help countries to improve the quality of existing data?

40. The project also tried to shed light on the question of whether the new chapter on capital can also be expected to improve the quality of existing data through greater clarification of the concepts and definitions around capital. Although there hasn't been any direct feedback from countries concerning this issue, it might be implicitly concluded based on the absence of requests for additional clarifications and from the likely information on additional data, that the new chapter on capital formation could eventually meet its objectives of enhancing the quality and comparability of the data on capital spending.

41. An analysis of where the reporting can be improved needs to take into account the current reporting situation. Under data requests of the JHAQ based on SHA 1.0, countries are invited to report "capital formation of health care provider institutions (HC.R.1)" broken down by

- financing agent/financing scheme (HCxHF table);
- health providers (HCxHP table).

42. The capital account in SHA 2011 continues to seek information on the acquisition of assets for each health provider. It distinguishes clearly between the aggregates "gross capital formation" and its various components in the upper part of the capital account table.

43. Feedback from countries shows that the possibility to report gross capital formation and gross *fixed* capital formation separately is useful. The clear distinction improves the quality of the submitted data. Some countries (e.g. Canada, Israel and the United States) have only information on gross *fixed* capital formation, whereas the United Kingdom and the Czech Republic would be in a position to identify gross capital formation and its components separately.

44. The second section of the capital account table recording the changes in net worth is a "new" element in the accounting for capital. It replaces the recording of HCR.1 in the HCxHF table (under SHA 1.0) which countries interpreted differently leading to incomparable results. One group of countries (e.g. Austria) report the *financer of the acquisition of assets*, and identify direct acquisitions of assets and investment grants from the government as "public" (HF.1) and the financing out of provider's own resources as "private" (HF.2). Another group of countries (e.g. Canada) make the distinction between "public" and "private" *based on ownership of the provider* in which the investment is made.

45. The new capital account table clearly defines the transactions that are used to finance the acquisition of assets, namely, savings, capital transfers and net lending/ net borrowing. The capital transfers can, additionally, be split into the sectors which fund them. It should, however, be noted that this new way of reporting is rather a precision of what has already been intended to capture in the financing split of HCR.1 under current JHAQ.

46. The possibility to identify the financing mechanism would allow countries that have in the past mainly recorded financing transactions as capital formation to report these items correctly in the

corresponding classification. Germany, for example, currently report investment grants for hospitals and savings in long-term care institutions under HCR.1. In the new capital account, these transactions can now be unambiguously reported.

47. Based on these examples, it might be assumed that the quality of existing data can be improved as the new classifications allow countries to report available data in the appropriate categories of the capital account.

Conclusions and next steps

48. Feedback from countries suggests that some additional items of the new capital account table could be reported. The aggregate that most countries can report is gross fixed capital formation. A good number of countries are in position to provide data on the types of assets for aggregated or individual health care providers. Information is also available on how providers finance the purchase of new assets; most promising seems to be the recording of capital transfers by the government.

49. From the data submitted by participating countries we can conclude that the new classification and the precise definitions of the transactions should potentially improve the quality of data and enhance international comparability as countries are enabled to report available data in the appropriate categories of the capital account.

50. There is no clear picture yet whether Chapter 11 of SHA 2011 is sufficiently clear to report changes in assets and changes in net worth comprehensively. From the limited feedback we have received it might be assumed that the chapter is in general understandable and would allow compilers of health accounts to report changes in assets and changes in net worth comprehensively. Issues that were unclear related to the treatment of impairments of assets as consumption of fixed capital, private-public partnership in financing of assets and to what extent capital formation of retailers (HP.5) should be considered as health-related. Additionally, a question arose on where to record assets acquired under financial and operational leasing. Other questions were concerned with the mapping of national data sources into the corresponding categories of the capital account.

51. Data availability on capital formation differs between countries depending on the institutional arrangement of the health sector as well as reporting obligations of providers. If data is collected based on ownership of providers more data seems to be available from the public sector. Generally, hospitals seem to be the health provider for which the purchase of assets and the financing methods are documented most comprehensively.

52. The findings from this limited study may serve as an input to the future reporting of capital via an SHA 2011-based JHAQ.¹⁶ It supports the idea to shift the main aggregate from capital formation to gross *fixed* capital formation and to allow countries the opportunity to include a split into types of assets at the 1st digit level. Concerning the financing side of capital formation it clarifies the recording of the *transactions* that finance the acquisition of assets, focusing on the transfers by the general government and the rest of the world, putting all other financing mechanisms into a residual category. From a health policy point of view these transactions seem to be particularly relevant. Although not captured under current health spending they can have a significant volume in some countries and are a policy instrument of governments.

¹⁶ See document [DELSA/HEA/HA\(2012\)11](#)

ANNEX 1 SHA CAPITAL ACCOUNT

(shaded cells indicate at least one country reported the possibility to provide data)

				Health care providers									
				Hospitals	Residential long-term care facilities	Providers of ambulatory health care	Providers of ancillary services	Retailers and other providers of medical goods	Providers of preventive care	Providers of health care system administration and financing	Rest of economy		
				HP1	HP2	HP3	HP4	HP5	HP6	HP7	HP8	Total	
Changes in assets (acquisitions less disposals)	HK1 Gross Capital Formation												
	HK11 Gross Fixed Capital Formation												
	HK111 Infrastructure												
	HK1111 Residential and non-residential buildings												
	HK1112 Other structures												
	HK112 Machinery and equipment												
	HK1121 Medical equipment												
	HK1122 Transport equipment												
	HK1123 ICT equipment												
	HK1124 Machinery and equipment n.e.c.												
	HK113 Intellectual property products												
	HK1131 Computer Software and databases												
	HK1132 Intellectual property products n.e.c.												
	HK12 Changes in inventories												
	HK13 Acquisitions less disposals of valuables												
	HK11.c Consumption of fixed capital												
	HK11.n Net capital formation												
HK2 Non-produced non-financial assets													
HK21 Land													
HK22 Other non-produced non-financial assets													
Changes in net worth	HKF1 Saving, net												
	HKF2 Capital transfers	HKF2p Payable	HKF21 Investment grants from	FA1 General government									
				FA6 Rest of the world									
				FA Total									
			HKF21 Other capital transfers from	FA1 General government									
				FA2 Insurance corporations									
				FA3 Corporations									
		FA4 NPISH											
		FA5 Households											
		FA6 Rest of the world											
		FA Total											
		FA Total											
Net lending (-)/net borrowing (+)													
Memorandum items	HKR1 Loans												
	HKR2 Accumulated Savings												
	HKR3 Public-private partnership												
	HKR4 Research and development in health (funded by)	FA1 General government											
		FA2 Insurance corporations											
		FA3 Corporations											
		FA4 NPISH											
		FA5 Households											
		FA6 Rest of the world											
	FA Total												
	HKR5 Education and training of health personnel (funded by)	FA1 General government											
		FA2 Insurance corporations											
		FA3 Corporations											
FA4 NPISH													
FA5 Households													
FA6 Rest of the world													
FA Total													