Subsoil Asset Accounts

Results of a questionnaire
and points for further discussion

Prepared for
The London Group Meeting
Copenhagen, Denmark
22-24 September 2004

by
Kristine Erlandsen, Statistics Norway
Martin Lemire, Statistics Canada
Ismir Mulalic and Ole Gravgård, Statistics Denmark
Raymundo J. Talento, NSCB, the Philippines
Jeremy Webb and Chase O'Brien, Statistics New Zealand

Background

LG Rome 2003: *Subgroup on subsoil asset accounting*

Purpose:

a) Carry out a survey on country practises in the compilation of mineral resources accounting

b) Prepare guidelines on the compilation of subsoil asset accounts

c) Consider the discussions of the Canberra II Group on the measurement of Non-Financial Assets as they relate to subsoil assets

Questionnaire / survey of country practises

- Send out by mail April 2003
  to 29 countries and organisations

- Responses from nine countries with subsoil asset accounting:

Canada	Austria	South Africa
New Zealand	Denmark	Netherlands
Philippines	Norway	United Kingdom

- and from Germany and Sweden: No accounting

Questions

- *Type of accounting*
  (which assets, classification, units of measurement, accounting period)

- *Basis for the accounts*
  (guidelines, data sources)

- *Challenges*

- *Dissemination*

- *Future plans*

The type of mineral and energy resources covered

	Oil and natural gas	Coal	Metallic minerals	Non-metallic minerals
Austria		x		
Canada	x	x	gold, copper, nickel, iron, uranium, crude bitumen, zinc, silver molybdenum and lead	potash
Denmark	x			
New Zealand	x	x	developing gold, silver and iron.	developing aggregate, limestone, dolomite, clay and other non-metallic minerals
Norway	x			
The Philippines		x	gold, copper, chromate, nickel, magnesium and iron	limestone and sand and gravel
South Africa		x	gold and platinum	
The Netherlands	x			

Resource classification

New Zealand The Philippines	Proven, Probable
Austria	Proven, Probable, Possible
United Kingdom	Proven, Probable, Possible and undiscovered
Norway	Total recoverable (discovered resources and undiscovered)
Denmark	Ongoing and approved, planned recovery, possible recovery
Canada	Developed reserves (Established – recoverable – proven/probable)

National level
 but: Canada,New Zealand and Philippines also **Regional level** accounting

All nine countries have time series (covering 10-25 years)

Years covered by the accounts

	Years covered	Time lag
Austria	1975-2000	
Canada	1977-2001	3 years
Denmark	1991-2002	2 years
New Zealand	1992-2001	3 year
Netherlands	(1986) 1996-2002	
Norway	1984-2002	1 year
Philippines	1988-1998 (1996)	
UK	1981-	10 month
South Africa	1980-2001	

Guidelines in use

- Non European countries: SEEA and others

- European countries:

  Eurostat-guidelines (for oil and gas)
  except the Netherlands for valuation

Usefulness of SEEA
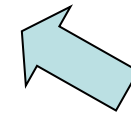
All nine countries find that SEEA is
clear and useful !

But some areas are poorly covered:

- *Renewable energy stock measurement*
- *Distribution of resource rent between owners*
- *Actual country examples*

Methods used for the valuation

NPV is the preferred method
   with 8% per cent return to capital,
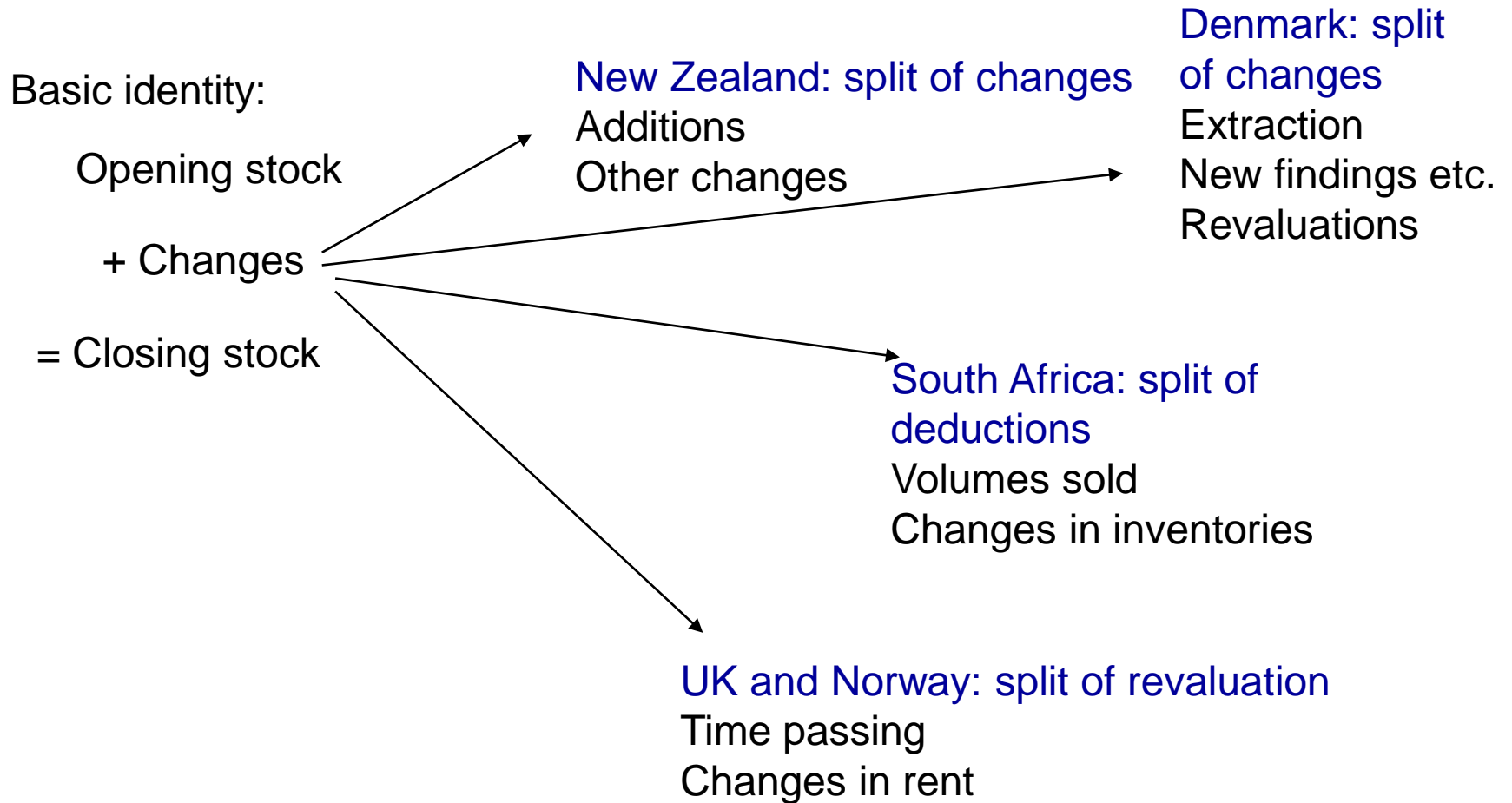   4% discount rate
      and constant extraction !

Eurostat
guidelines

The Netherlands: Rent appropriated by government

Canada and the Philippines: Other methods in use as well

Varying details in monetary asset accounts

Basic identity:

Opening stock

+ Changes

= Closing stock

New Zealand: split of changes
Additions
Other changes

Denmark: split
of changes
Extraction
New findings etc.
Revaluations

South Africa: split of
deductions
Volumes sold
Changes in inventories

UK and Norway: split of revaluation
Time passing
Changes in rent

Treatment of uncertainty

Philippines, New Zealand, UK: Verbal explanation in publications

Canada: Relative measure of reliability

Denmark and Norway: Sensitivity analysis (varying discount rate and rate of return on capital)

Dissemination of accounts

- Internet (CA, DK, PH, NZ, UK)
- Hard Copies (DK, CA, PH, ZA)

Indicators

Natural ressource wealth
Physical stocks
Total ressource base

Production/reserve ratio

Several countries mention that they intend to derive indicators

Use of the accounts

Canada: National balance sheet, index of well-being

New Zealand: Analysis of carbon tax policy,
                Sustainability assessment model

Norway and Philippines: Growing interest from ministries

The Norwegian experience in the 80'ties !

Other issues of interest

Decommisioning costs

no experience,   but broad interest

"Stocks" of renewable energy

 (wind, hydro, biomass, etc.)

Countries' future plans

Minor plans for future expansions
But: more regular accounts

Canada: Diamonds, offshore crude oil and gas

Norway: Incorporation of monetary accounts into National
　　　　Accounts

New Zealand: Carbon accounts and renewable energy

Philippines: Hydro, oil, gas and other minerals

Some challenges mentioned by respondents

General:

- Lack of data
- Data quality
- Confidentiality
- Lack of expertise and experience

Valuation:

- depletion profile
- rate of return to capital
- discount rate
- Treatment of capital in rent calculation
- Division of cost between oil and gas
- Government's share of revenues from oil and gas

Points for *discussion* and *prioritising*

- Need for harmonization and international comparisons ?

  Classifications

  NPV parameters
  Rate of return, discounting, extraction profiles
  Consensus rates?

- Guidelines for regional subsoil accounts ?

- Would it be useful to try to harmonize the level of detail in the accounting ?
  Same accounting items for changes in stocks ?

- Decommissioning cost ?

- Supplement SEEA with guidelines ?
  - renewable energy stock measures
  - distribution of resource rent between owners,
  - actual country examples

- Common standards for reliability measures and sensitivity analysis ?

- How can experiences best be shared ?

- Fixed prices calculations of stock values ?

- Are indicators for subsoil assets an issue for the London Group ?

Next Step for the London Group / sub-group?

- Continue country survey ?

- Prepare guidelines ?
  build on Eurostat guidelines

- Other ideas ?

- Ambitions and resources ?

- New volunteers for the subgroup ?