MERGE Wealth Accounting Workshop 1 – Summary

Date: 8 October 2025
Purpose: The aim of the workshop was to provoke a discussion around the flexible boundary of what is in scope and how we should conceptualize social capital, heritage capital, cultural capital and organisational capital.

Presentation 1: ONS Using National Accounting to Define Inclusive Wealth

Key Themes:

- **National Accounting as a Foundation**: Using the System of National Accounts (SNA) to define inclusive wealth ensures consistency, comparability, and conceptual rigour.
- **Completeness**: Inclusive wealth aims to account for all value streams, but integrating additional capitals requires careful conceptual work.

Purpose and Approach

- The presentation introduced a **national accounting-based framework** for measuring inclusive wealth.
- This approach offers **consistency**, **comparability**, and **rigour**, aligning capital measurement with existing economic structures like savings, investment, and GDP.

Key Concepts Defined

- **Production Boundary**: Defines what counts as economic activity.
- **Asset Boundary**: Defines what qualifies as a capital asset (used in production for more than a year).
- **Economic Ownership**: Assets must have an identifiable owner who benefits from them.

Expanding Boundaries

- **Production Boundary** was expanded to include:
    - Unpaid household services.
    - Non-market ecosystem services.
    - Broader intangible assets.
- **Asset Boundary** was expanded to include:
    - Human capital.
    - Household capital.

    - Additional intangible assets.

Capital Types and Income Attribution

- **Human Capital**: Includes compensation of employees and part of mixed income (e.g., self-employed labour).
- **Produced Capital**: Includes traditional assets and household production assets (e.g., washing machines, cars).
- **Natural Capital**:
    - **Environmental resources** (e.g., forests, fish).
    - **Regulating services** (e.g., carbon sequestration).
    - **Cultural services** (e.g., aesthetic value of green spaces).

Completeness and Additional Capitals

- The framework accounts for all income streams via human, produced, and natural capital.
- To include **social or cultural capital**, three approaches were proposed:
    1. **Distinct Capital**: Reallocate portions of existing income streams.
    2. **Enabling Capital**: Overlap with other capitals (e.g., social capital enabling human capital).
    3. **Future Value Contributor**: Introduce a time dimension where capitals like trust or public domain knowledge (e.g., calculus) eventually confer value to other capitals.

Discussion Highlights

Social Capital Valuation

- Participants discussed the **difficulty of monetizing social capital**, its **multi-dimensional nature**, and whether it should be treated as **distinct**, **enabling**, or **embedded**.
- It was noted that **social capital often influences the accumulation and maintenance** of other capitals (e.g., trust enabling investment in human capital).

Natural Capital Measurement

- The framework uses adjusted versions of existing national accounts to avoid **double counting** (e.g., aesthetic value of green spaces already reflected in house prices).

- Emphasis was placed on **shadow pricing** and **market alignment**.

Cultural and Heritage Capital

- Cultural assets (e.g., historic buildings) were discussed as evolving from physical to heritage assets.
- The challenge lies in integrating **intangible values** like identity and aesthetics into national accounting.

Sustainability and Interdependence

- Concerns were raised about **strong vs. weak sustainability** and whether **natural capital can be replaced** by social or human capital.
- The framework was clarified to show that **social capital may support maintenance**, not replacement, of natural capital.

Human Capital and Health

- The role of **health expenditure** as investment in human capital was discussed.
- Future plans include linking **health interventions** to **expected future earnings**, enabling a more integrated valuation approach.

Presentation 2: Inclusive wealth: real usage of capital using global and satellite data

Overview

- The presentation emphasized the **utilization of inclusive wealth data** for policy impact, planning, and sustainability.
- It highlighted the evolution of inclusive wealth reporting since 2012, with increasing collaboration among global institutions and integration into **Beyond GDP** and **well-being frameworks**.

Key Themes and Examples

Satellite Data Integration

- Satellite data from NASA, ESA, and other sources enables **high-resolution mapping** of natural and human capital.
- Applications include:
    - Estimating land use, population distribution, and infrastructure.

    - Disaggregating data to regional and city levels.
    - Filling gaps in national statistics, especially in developing countries.

Case Studies

- **India**: Air pollution reframed as a human capital issue to influence policy. This approach led to increased political attention and policy development.
- **China and Japan**: Satellite data used to map inclusive wealth across regions, showing disparities in development and capital distribution.
- **Africa**: Satellite data helps overcome limited national statistics, enabling better estimates of natural capital and mineral resources.

Forecasting and Infrastructure Impact

- Techniques developed to forecast **future population trends** with high accuracy.
- Infrastructure projects (e.g., high-speed rail) analyzed for their impact on:
    - **Produced capital** (economic development).
    - **Natural capital** (carbon reduction and land use).

Tourism and Mobility Data

- Mobile phone data used to track movement and estimate **travel value** to regions.
- This helps assess the attractiveness of natural capital and supports **shadow pricing**.

Subjective Well-being and AI

- Inclusive wealth data linked to **subjective well-being** indicators (e.g., happiness, satisfaction).
- Findings:
    - Moderate urbanization correlates with higher well-being.
    - Income and age show U-shaped relationships with happiness.
- AI and machine learning used to model these relationships with high confidence.

Policy Utility

- Inclusive wealth metrics can guide **future investment decisions** by region.
- Targets (e.g., 10% improvement by 2040) can be set and linked to capital needs.

Discussion Highlights

Income and Well-being

- Clarified that well-being increases with income, but at a **diminishing rate**.
- Happiness tends to dip in middle age and rise again in older age.

Global Interest and Adoption

- Countries showing strong interest include:
    - **Europe, Canada, Australia**: Especially in natural capital and climate-related metrics.
    - **Africa**: Due to reliance on natural resources and limited physical/human capital.
    - **Emerging economies**: Interest in urban planning and transitioning from fossil fuels.

Uncertainty and Data Validation

- Concerns raised about **land cover data discrepancies** across global datasets.
- Presenter acknowledged challenges in estimating natural capital (e.g., coral reefs) due to limited field data.
- Emphasized the importance of **cross-validation** using academic literature and national statistics.

Presentation 3: Global Ecosystems and Comprehensive Wealth Accounting - Concepts and Measurement

Core Argument

- The presentation challenged the feasibility of treating **global ecosystems** (e.g. atmosphere, oceans, climate system) as **national assets** due to the lack of ownership and control by any single country.
- Instead, it proposed that **degradation of global ecosystems** should be treated as **national liabilities**, which are more tractable and meaningful within national accounting frameworks.

Critique of Current Practice

- The **System of Environmental-Economic Accounting (SEEA)** recommends treating ecosystems as assets, but this is only practical for **domestically bounded ecosystems** (e.g. forests within a country).
- For **global ecosystems**, such as the climate system, this approach breaks down due to the absence of ownership and control.

Alternative Approach: Liability Accounting

- Inspired by earlier work (e.g. Kirk Hamilton's "genuine savings" and André Vanoli's extension of national accounts), the speaker advocated for:
    - **Accounting for climate damages as liabilities** on national balance sheets.
    - **Attributing damages suffered by a country** due to global emissions, rather than damages caused by its own emissions to others.

Adjusted Net Savings

- The World Bank adjusts national net savings based on **damages caused by a country's emissions globally**.
- Argued this is ethically interesting but **conceptually flawed** for national well-being analysis.
- Instead, countries should adjust for **damages they suffer** from global emissions, including their own.

New Climate Literature and Urgency

- Recent studies show **much higher social costs of carbon** than previously estimated:
    - Central estimates now range from **$500 to over $1000 per tonne**.
    - National-level estimates (e.g. $40/tonne for India) suggest climate damages could **wipe out national savings**, even when human capital is included.
- This implies that many countries are already on **unsustainable development paths**.

Conceptual Clarification

- The speaker emphasized that the **loss of climate stability** affects the value of other assets (human, produced, social capital).
- Since these effects are not yet reflected in depreciation rates or asset valuations, a **liability entry** is needed to capture the loss.

Discussion Highlights

Ownership and Accounting Challenges

- Participants agreed that **ownership ambiguity** is a common issue across environmental and intangible capitals.
- The idea of treating **atmospheric degradation** as a liability was supported, though some noted the difficulty of producing **stock estimates** without long historical data.

Depreciation and Expected Losses

- It was noted that the **System of National Accounts (SNA)** allows for expected losses to be included in depreciation.
- However, most national statisticians **do not currently adjust depreciation rates** to reflect climate risks, making explicit liability adjustments necessary.

Justification for Liability Approach

- The speaker clarified that the liability approach focuses on the **loss of climate stability**, not the depletion of carbon sinks.
- This stability underpins the functioning of all other capitals, and its degradation must be accounted for until direct adjustments to asset values are feasible.

Magnitude of Impact

- Climate damages are **massive and policy-relevant**:
    - Example: India's climate liability could be estimated at **$1.5 trillion**.
    - These figures are large enough to demand attention from governments and international bodies.

Presentation 4: Natural capital in the 2025 SNA and some reflections on wealth accounting

Overview

The presentation explored three main themes:

1. **Classification of Natural Resources** in the updated SNA.
2. **Allocation Challenges** for natural resource depletion across borders.
3. **Valuation Methods** for assets, especially non-market and intangible ones.

Classification of Natural Resources

- The **2025 SNA** introduces a **new asset class** for natural resources, consolidating items previously scattered across produced and non-produced categories.

- Key additions include:
    - **Renewable energy resources** as a distinct category.
    - **Radio spectrum** now classified as a natural resource.
    - **Greenhouse gas permits** reclassified as financial assets.
- The update aims to better support **well-being and sustainability measurement**.
- However, **terminological inconsistencies** remain:
    - Natural resources now include **cultivated assets**, which contradicts their definition as "naturally occurring."
    - **Land** is treated differently across frameworks (SNA vs. SEEA), leading to confusion.

Allocation of Natural Resource Depletion

- The presentation highlighted unresolved issues in **cross-border resource extraction**, such as:
    - **Illegal fishing**: When one country depletes another's fish stocks, current accounting frameworks struggle to reflect this accurately.
    - **Non-resident extraction**: Depletion is not consistently recorded in the accounts of the extracting country.
- A proposed solution involves:
    - Recording all production and depletion under the **extracting country's accounts**.
    - Allocating the **asset value and depletion impact** to the **resource-owning country**.
- This approach aligns with national accounting practices but conflicts with balance of payments standards, limiting its adoption.

Valuation Methods and Conceptual Tensions

- Two dominant valuation traditions were discussed:
    - **Residual Value Method**: Used for natural resources; calculates asset value as surplus after deducting costs.

    - **Sum-of-Cost Method**: Used for produced assets like data; adds up input costs and applies a return rate.

- Concerns raised:
    - **Sum-of-cost methods** may undervalue assets with **supernormal returns** (e.g., data used by tech giants).
    - **Residual methods** may better capture economic rents and intangible value.
- The 2025 SNA introduces flexibility:
    - Allows assets to be recognized even if benefits accrue to **society at large**, not just the owner.
    - This opens the door to include **ecosystem services** and **public domain assets** in wealth accounting.

Discussion Highlights

Valuing Data and Intangibles

- Participants debated the limitations of the **sum-of-cost approach** for valuing data:
    - It fails to capture **exponential value growth** from data aggregation.
    - It may misrepresent the business models of digital platforms.
- Alternative approaches like **residual valuation** were seen as more reflective of real-world asset value.

Human Capital Measurement

- Concerns were raised about using cost-based methods to value human capital (e.g., education and training).
- Returns-based approaches (e.g., wage outcomes) may offer more accurate estimates.

Need for Conceptual Clarity

- The discussion emphasized the importance of **exposing and challenging assumptions** embedded in national accounting conventions.
- There was broad agreement that **valuation methods must evolve** to reflect the complexity of modern assets, especially intangible and environmental ones.