

Intangible Assets

13.1 Introduction

Intangible assets represent one of the most important sources of Accounting Bias in modern financial reporting. Unlike tangible assets, their value derives primarily from knowledge, innovation, legal rights, organizational capability, and future economic opportunities rather than from physical characteristics.

The increasing importance of intangible capital has fundamentally altered the relationship between accounting values and economic values. In many industries, the majority of enterprise value is generated by assets that are only partially recognized—or not recognized at all—in the financial statements.

Examples include

- internally developed software,
- proprietary algorithms,
- brands,
- customer relationships,
- research capabilities,
- organizational knowledge,
- human capital,
- internally generated goodwill.

From the perspective developed throughout this book, intangible assets provide the clearest illustration that Accounting Bias is an inherent property of financial reporting rather than a consequence of accounting error.

13.2 Economic Definition

Let

$$IA$$

denote an intangible asset.

Its economic value is determined by the future economic benefits expected from its use.

Accordingly,

$$EV(IA) = \sum_{t=1}^T \frac{E(CF_t)}{(1+r)^t},$$

where

- $E(CF_t)$ represents expected future economic benefits,
- r is the discount rate,
- T denotes the expected economic life.

Unlike tangible assets,

these cash flows frequently depend upon competitive advantage, innovation,

consumer behaviour,

network effects,

and managerial capability.

Consequently,

economic valuation is inherently uncertain.

13.3 Recognition

Recognition constitutes the principal source of Accounting Bias affecting intangible assets.

Let

$$R(IA) = \begin{cases} 1, & \text{recognized,} \\ 0, & \text{not recognized.} \end{cases}$$

Many economically valuable intangible resources satisfy

$$R(IA) = 0.$$

Examples include

- internally generated brands,
- internally generated goodwill,
- employee expertise,
- internally developed customer loyalty,
- internally generated reputation.

Book value therefore becomes

$$BV(IA) = 0,$$

while

$$EV(IA) > 0.$$

Recognition Bias is therefore

$$B_R = -EV(IA).$$

Unlike previous asset classes,

Recognition Bias dominates every other component of Accounting Bias.

Theorem 13.1. *Internally generated intangible assets produce the largest expected Recognition Bias among all major balance-sheet asset categories.*

Proof. Recognition Bias equals

$$B_R = BV - EV.$$

For internally generated intangibles,

$$BV = 0,$$

while

$$EV > 0.$$

Hence

$$B_R = -EV.$$

For recognized assets such as cash, inventories, or PPE, book value is generally positive.

Accordingly,

the expected magnitude of Recognition Bias is larger for internally generated intangibles than for recognized asset categories.

□

13.4 Measurement

Recognized intangible assets are initially measured at cost.

Suppose

$$HC$$

denotes acquisition cost.

Initially,

$$BV = HC.$$

Economic value,

however,

depends upon future economic benefits,

which may differ substantially from acquisition price.

Measurement Bias therefore equals

$$B_M = HC - EV.$$

For acquired patents or licences,

this difference may initially be small.

For rapidly evolving technologies,

Measurement Bias may become significant within a short period.

13.5 Research and Development

Research and development expenditures illustrate the interaction between recognition and measurement.

Suppose

$$RD = R + D,$$

where

- R denotes research expenditure,
- D development expenditure.

Under IAS 38, research expenditure is generally recognised as an expense, while development expenditure may be capitalized if specific recognition criteria are satisfied (International Accounting Standards Board, 2025f). The economic significance of R&D capitalization and amortization has also been examined empirically (Lev and Sougiannis, 1996).

Book value therefore becomes

$$BV = D.$$

Economic value,

however,

depends upon the expected future benefits generated by both successful research and development activities.

Consequently,

Recognition Bias may arise long before technological success becomes observable.

13.6 Useful Life

Recognized intangible assets may possess

- finite useful lives,
- indefinite useful lives.

Finite-life assets are amortized.

Suppose

$$UL$$

denotes useful life.

Annual amortization becomes

$$A = \frac{HC - RV}{UL}.$$

If accounting useful life differs from economic useful life,
Useful-Life Bias equals

$$B_{UL} = A_A - A_E.$$

13.7 Impairment

Indefinite-life intangible assets are not amortized.

Instead,

they are tested periodically for impairment.

Recoverable amount equals

$$RA = \max(FVLCD, VIU).$$

Book value becomes

$$BV = \min(BV, RA).$$

Impairment Bias therefore equals

$$B_I = RA - EV.$$

Since both recoverable amount and economic value depend upon discounted future cash flows,

impairment testing introduces substantial estimation uncertainty.

13.8 Accounting Bias Decomposition

The complete Accounting Bias for intangible assets becomes

$$AB_{IA} = B_R + B_M + B_{UL} + B_I + B_T + B_E,$$

where

- B_R Recognition Bias,
- B_M Measurement Bias,
- B_{UL} Useful-Life Bias,
- B_I Impairment Bias,
- B_T Timing Bias,
- B_E Estimation Bias.

Recognition Bias is generally expected to dominate the remaining components.

13.9 IFRS and German GAAP

Both IFRS and German commercial accounting recognize acquired intangible assets subject to specified criteria. However, both frameworks impose substantial restrictions on the recognition of internally generated intangible resources (International Accounting Standards Board, 2025f; Bundesrepublik Deutschland, 2026a).

German GAAP generally adopts a more conservative recognition approach,

while IAS 38 permits capitalization of certain development expenditures once strict recognition criteria are satisfied.

Neither framework seeks to report the complete stock of economically valuable knowledge possessed by an entity.

Consequently,

both systems generate systematic Recognition Bias,
although the magnitude may differ.

13.10 Economic Significance

In knowledge-intensive industries,

the majority of enterprise value frequently originates from intangible resources.

Technology,
pharmaceutical,
software,
media,
consulting,

and luxury-brand companies often possess economic values substantially exceeding their reported book values.

This divergence should not automatically be interpreted as accounting failure.

Rather,

it represents the predictable consequence of an accounting system that places greater emphasis on reliability, verifiability, and legal certainty than on the recognition of highly uncertain internally generated assets.

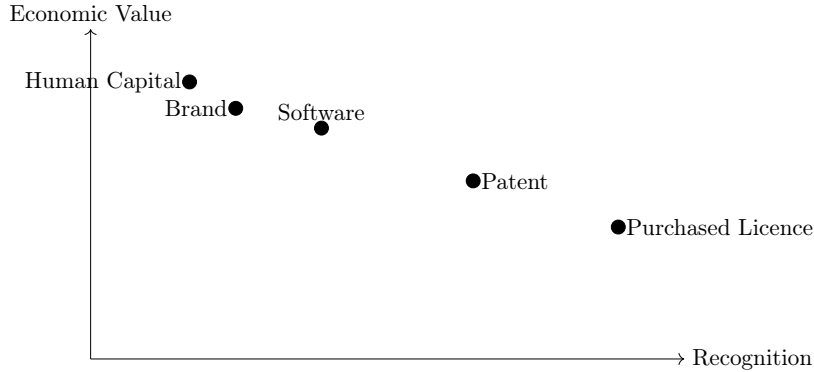


Figure 13.1: Illustrative relationship between recognition and economic value of selected intangible assets.

13.11 Conclusion

Intangible assets represent the clearest manifestation of Accounting Bias.

Unlike previous asset categories, the principal source of divergence is not measurement but recognition. Many economically valuable resources remain entirely absent from the balance sheet despite contributing substantially to enterprise value.

The analysis demonstrates that Accounting Bias is not necessarily reduced by improving valuation techniques.

If economically relevant objects never enter the accounting system, measurement alone cannot eliminate the resulting divergence.

The following chapter examines goodwill, where recognition occurs through business combinations and where the interaction between acquisition accounting, synergies, and impairment creates one of the most complex forms of Accounting Bias encountered in financial reporting.