Valuation of non-financial liabilities

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IVS 220 non-financial liabilities: development

- IVS issued January 2017 – effective 1 July 2017
- IVSC issued ITC on 15 May 2017
- Need identified during agenda consultation process conducted by the IVSC in 2017 and 2018
- Process led by the Business Valuation Board of the IVSC
- Exposure draft consultation period 4 January to 1 April 2019
- Released 31 July 2019 as part of general IVS update / effective from 31 January 2020
- Basis for conclusions to be published late 2019

IVS 220 non-financial liabilities: overview

- The principles contained in the IVS General Standards apply to valuations of non-financial liabilities (s.10.)
- IVS 220 contains **additional requirements** that apply to valuations of non-financial liabilities (s.10.)
- Additional requirements focused on:
  - Definition and characteristics (s.20. - s.30.)
  - Valuation approaches and methods (s.40. - s.70.)
  - Special considerations (s.80. - s.120.)

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What is a non-financial liability under IVS 220?

> s.20.1. For purposes of IVS 220, non-financial liabilities are defined as those **liabilities** requiring a **non-cash performance obligation to provide goods or services**.

- ‘Liability’ not defined but can be considered to have its generally understood meaning
- The ‘non-cash performance obligation’ may be **in part or in full** (s.20.2.)

What isn’t a non-financial liability under IVS 220?

IVS 220 does not apply to:

- **non financial liabilities with unique attributes or valuation techniques to warrant their own standard**, including contingent consideration (s.20.3.), insurance contracts, leases, and pension/retirement obligations
- **financial liabilities**, such as notes payable, bonds payable, trust preferred securities and deposit liabilities.

Identification of what comprises a non-financial liability can be difficult and require significant valuer judgement

Examples of liabilities that may have a non-cash fulfilment obligation and so be subject to IVS 220

Type of non-financial liability	Example of non-cash performance obligation
Deferred revenue/contract liabilities	Magazines produced under subscription model
Warranties	Manufacturers new car warranty
Asset retirement obligations	Decommissioning of obsolete factory
Environmental liabilities	Remediation of contaminated site
Loyalty programs	Redemption of the accrued “currency”
Power purchase agreements	Supply of electricity by producer to consumer
Certain litigation reserves/contingencies	Chemical “nightmare scenario”
Certain indemnifications/guarantees	Tax indemnifications

Refer: IVS 220 (s.20.2.)

Non-financial liabilities are inherently complex…

> We provide warranties on vehicles we sell. Warranties are offered for **specific periods of time and/or mileage**, and vary depending upon the **type of product and the geographic location of its sale**. Pursuant to these warranties, we will **repair, replace, or adjust** all parts on a vehicle that are defective in **factory-supplied materials or workmanship** during the **specified warranty period**. In addition to the costs associated with this warranty coverage provided on our vehicles, **we also incur costs as a result of field service actions (ie safety recalls, emission recalls, and other product campaigns), and for customer satisfaction actions.**
>
> Ford 2018 annual report

… uncertain and volatile….

Due to the uncertainty and potential volatility of these factors, changes in our assumptions could materially affect our financial condition and results of operations.

Ford 2018 annual report

…and have significant financial impact

Reported values of loyalty program liabilities

Company	Liability (US$bn)
American Airlines Loyalty Program	8.6
American Express Membership Rewards	8.4
Delta Loyalty Program	6.7
Marriot Guest Loyalty Program	5.7
United Frequent Flyer Program	5.2
Hilton Guest Loyalty Program	1.8

Source: Capital IQ

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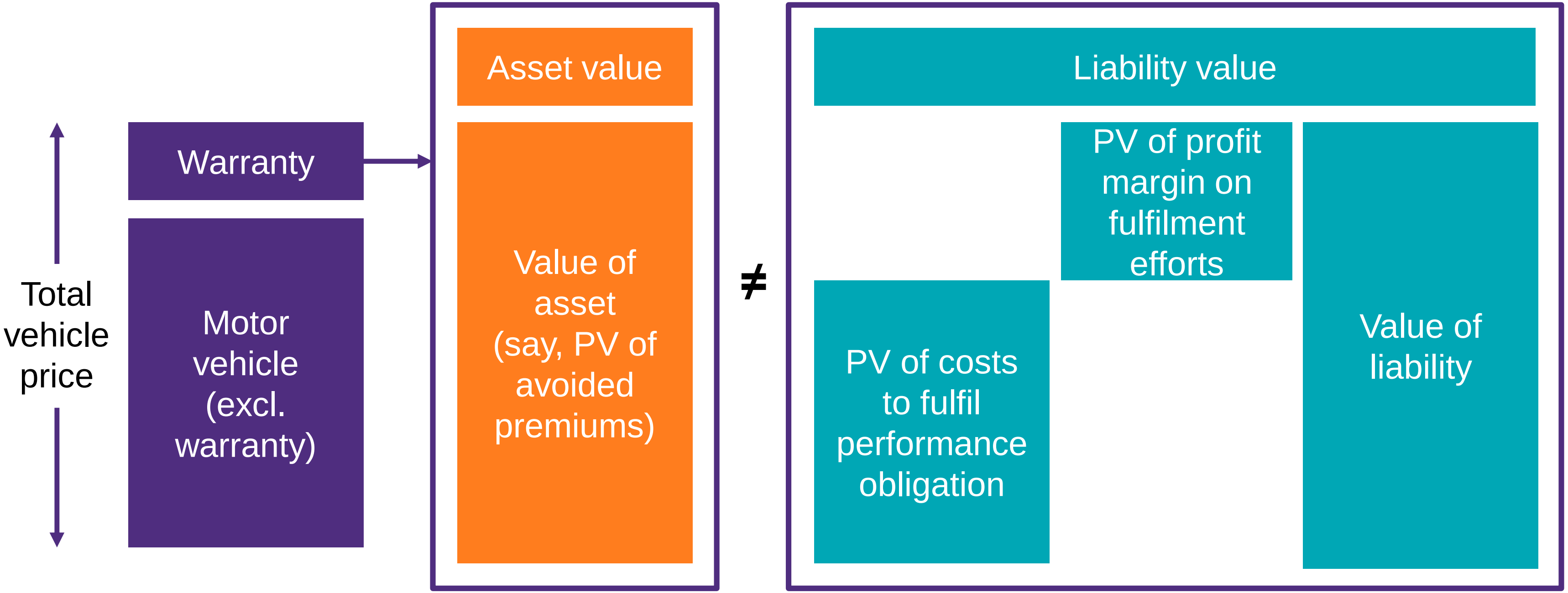
A key feature of non-financial liabilities is the absence of asset-liability symmetry

- The value for a non-financial liability value will generally not reconcile to a corresponding asset value (refer s.20)
- So, it's rare to be able to value the corresponding asset and equate this to liability value
- This means that non-financial liabilities will most often need to be valued using a liability framework
- **IVS 220 provides this valuation framework**

Why do non-financial liability values usually not reconcile to corresponding asset values?

- Market illiquidity for both asset and liability (s.20.8.(c))
- Counterparty may not recognise asset (s.20.8.(a))
- May only be transferred with another asset (s.20.8.(a))
- The corresponding asset may be held by numerous parties, so impractical to identify and reconcile (s.20.8.(b))
- Requirement for a profit margin on fulfilment (s.20.4)

Asset-liability symmetry considerations relating to a manufacturers vehicle warranty program



Why value non-financial liabilities?

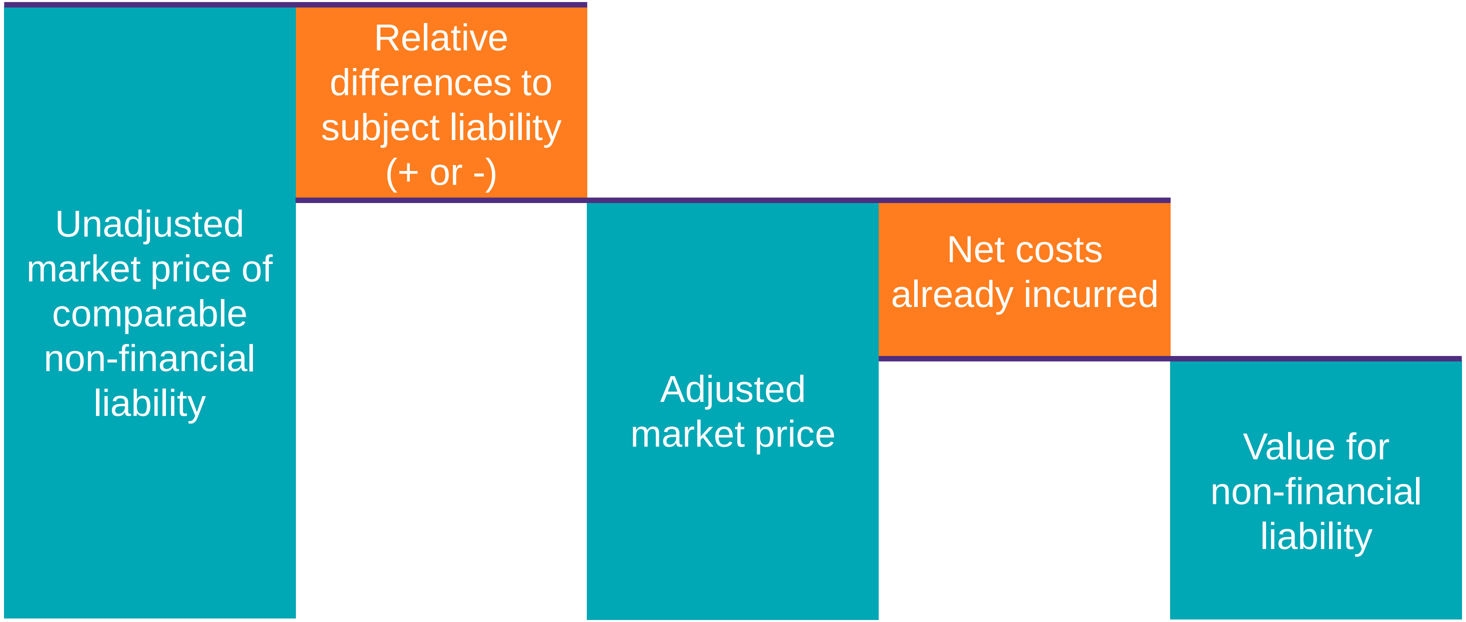
- Many possible reasons for valuation
  - Financial reporting
  - Taxation reporting
  - Litigation support
  - General consulting, lending and transactional support
- Valuer must understand valuation purpose and its implications

Refer: IVS 220 s.20.9

Elements of income, market and cost based valuation approaches can be used to value NFLs

Approach	IVS	Value determined by reference to	Usage
Market (top-down)	s.50.	Market activity (for example, transactions involving identical or similar non-financial liabilities)	Rare
Income (bottom-up)	s.60.	Present value of costs to fulfil less reasonable mark-up	Frequent
Cost	s.70.	Limited direct application as participants typically require a return on fulfilment	With other methods

IVS 220 framework to value a NFL under a market based approach (top-down method)



Refer: IVS 220 s.50.13-16

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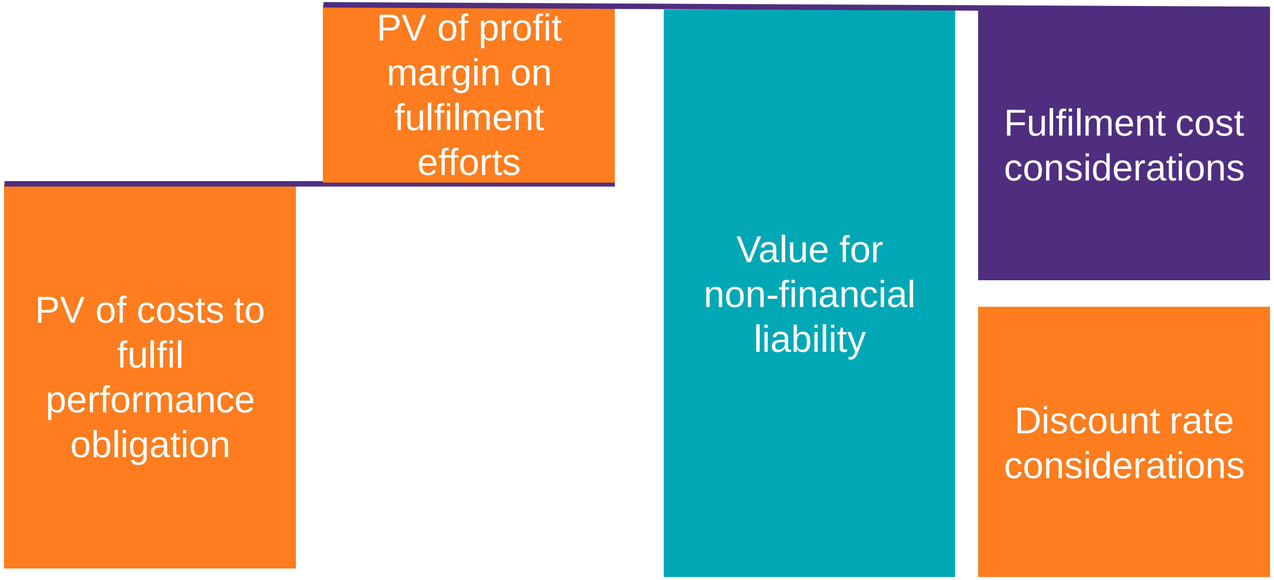
Market approach considerations

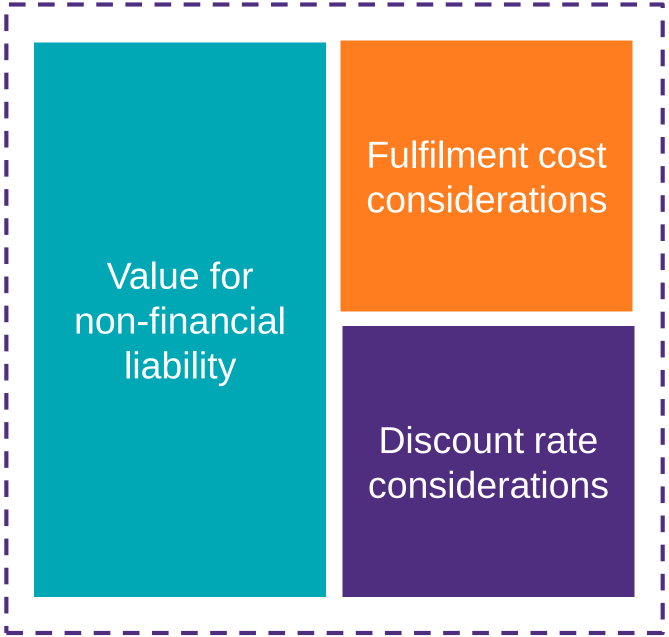
- Approach assumes reliable market pricing is available
- In reality, this is rare:
  - non-financial liabilities rarely transacted on their own
  - non-financial liabilities tend to be relatively unique
- So, any market evidence likely to require adjustment
  - if significant, another valuation approach may be more appropriate

Refer: IVS 220 s.50.1-50.11

IVS 220 framework to value a NFL under an income based approach (bottom-up method)



Fulfilment cost considerations under an income approach (bottom-up method) (1)



- **Performance obligation fulfilment costs may reflect:**
  - direct costs (s.60.5.(a))
  - indirect costs (s.60.5.(a))
  - opportunity costs (s.60.5.(b)).
- **Determine a reasonable mark-up on the fulfilment effort**
  - operating profit of entity holding liability may be an appropriate starting point

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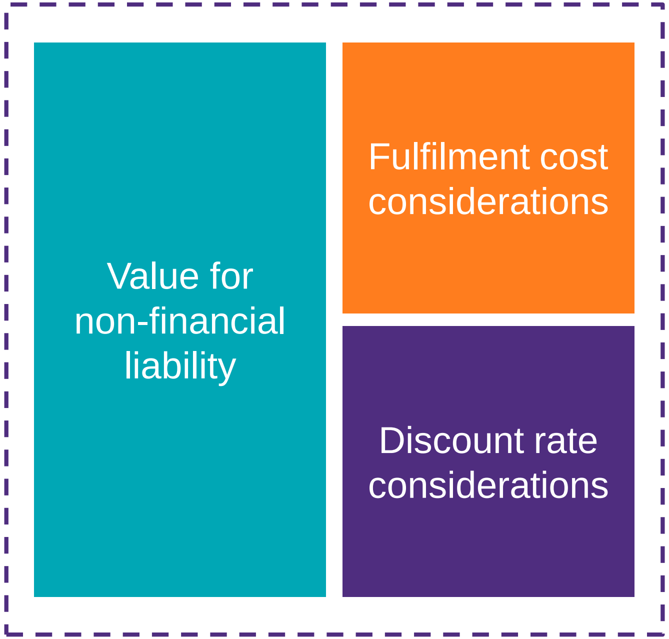
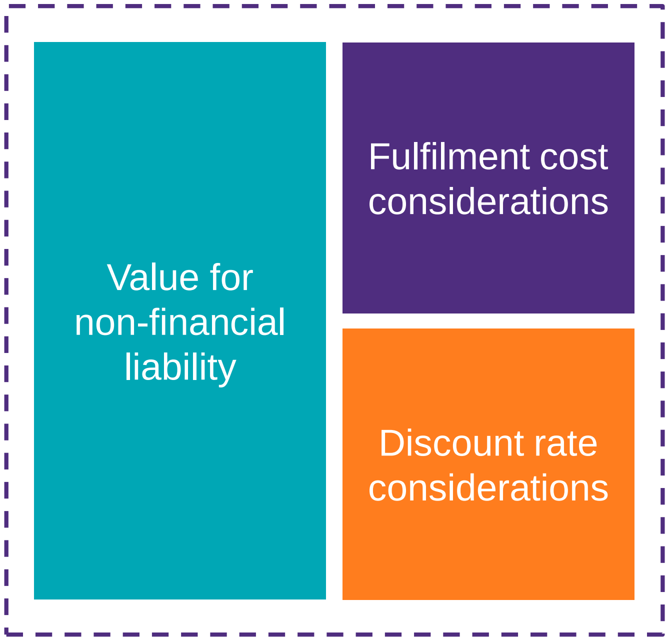
Fulfilment cost considerations under an income approach (bottom-up method) (2)



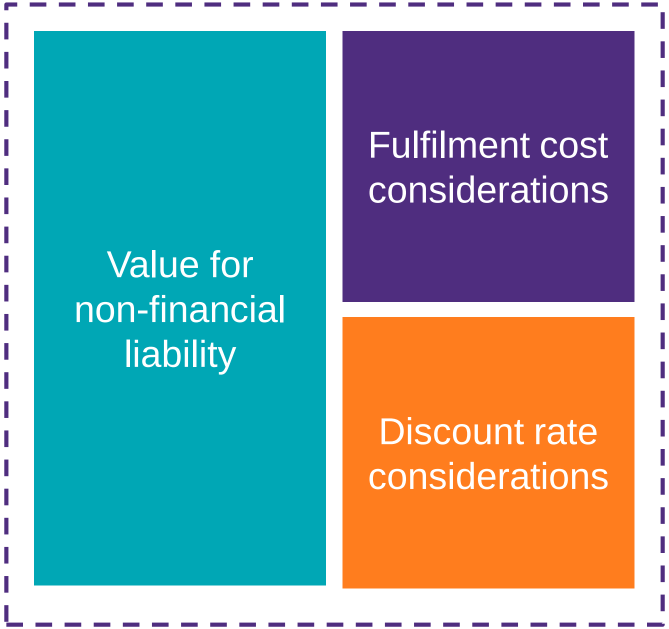
- **Assessment of performance obligation fulfilment costs may require modelling multiple scenarios**
  - scenario based modelling (SBM) (s.100.2)
  - used when future payments vary depending upon future events (s.100.2)

Discount rate considerations under an income approach (bottom-up method) (1)



- **Discount rate should account for both:**
  - time value of money (s.90.2), and
  - non-performance risk (i.e. credit risk of the entity obligated to fulfil the liability) (s.90.2)
  - uncertainty and illiquidity typically reflected via additional margin adjustments to cash flow (s.60.5(c)) and (s.110.3)

Discount rate considerations under an income approach (bottom-up method) (2)



- **Issues to consider:**
  - inverse relationship between discount rate and value (s.100.5)
  - liability term, including inflationary effects (s.90.4 & s.90.7)
  - cost of borrowing for holder of non-financial liability (s.90.6)
  - avoid discounting double-counting (s.60.5(d))
  - taxes (s.120)

Incorporation of cash flow forecast risk (via a cash flow risk margin)

Cash flow risk margin considerations

Valuer must consider	Valuer should consider
Life/term/maturity of asset and consistency of inputs	Level of certainty in anticipated fulfilment costs and margin
Location of asset and markets	Emerging experience of liability
Type of cash flow forecast (expected, most likely, etc)	Expected width of distribution of outcomes, and extent of ‘tail risk’
Currency denomination	Rights and preferences of NFL

Source: s.100.8 & s.100.9

The higher the cash flow forecast risks, the greater the required cash flow risk margin

Estimating the likelihood a chemical will turn into a “liability nightmare” (top-down approach)

Probability of “mega lawsuit” liability equals:

Distinctive symptoms **X** Causal evidence **X** Long latency **X** Widespread use **X** Aggravating circumstances

Value of liability = **probability of liability** x lawsuit amount x company share

Source: Schoemaker & Schoemaker (1995). Estimating environmental liability: quantifying the unknown. California Management Review.

Estimating the liability relating to a customer loyalty program (bottom-up approach)

Cost per point (CPP) X (Earned points to date X Ultimate redemption rate (URR) - Redemption to date) = Estimated liability

Source: KRYOS. The ultimate guide to loyalty program finance.

Site remediation liability using scenario based modelling

Scenario	Soil		Groundwater	Cost	Probability	Exp. cost
One	$4 million	70%	$2 million	$6 million	35%	$2.1 million
	50%	30%	$5 million	$9 million	15%	$1.4 million
Two	$6 million	70%	$2 million	$8 million	21%	$1.7 million
	30%	30%	$5 million	$11 million	9%	$1.0 million
Three	$10 million	70%	$2 million	$12 million	14%	$1.7 million
	20%	30%	$5 million	$15 million	6%	$0.9 million
			Estimated value of liability		100%	$8.8 million

We are likely to see increasing use of big data and predictive analytics to value non-financial liabilities

- Underpinning the valuation of non-financial liabilities is often detailed evaluations of:
  - expected consumer and corporate behaviour
  - potential environmental outcomes
  - various commercial and legal outcomes.
- Big data and predictive analytics tools appear likely to enhance the accuracy of non-financial liability valuations

Questions

