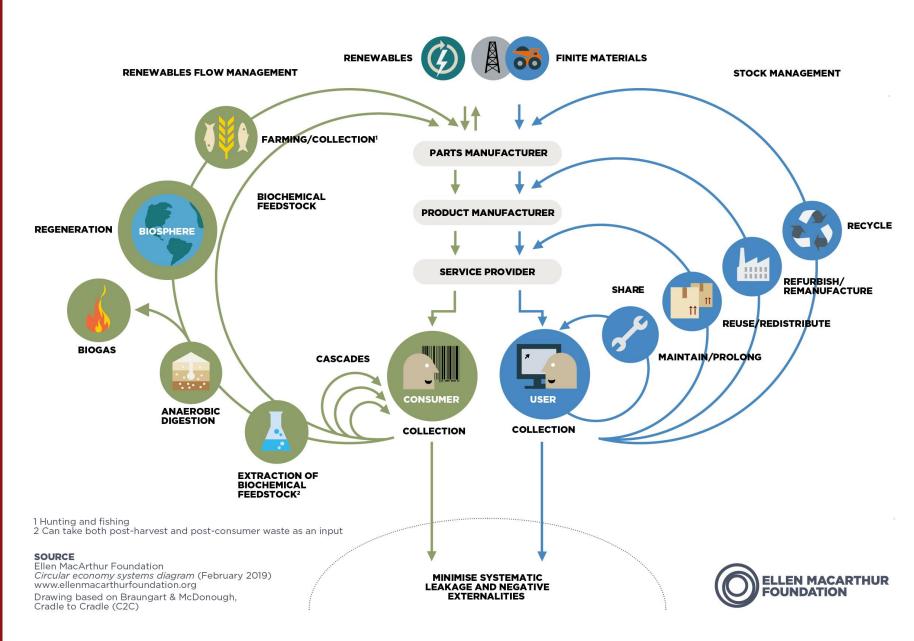
# Economic Analysis of Product Liability for Circular Economic Business Models

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Elias Van Gool 02/24/2022

#### 1. Introduction

- Product liability law and its economic analysis are based on a linear economic model
  - Manufacture → Distribute → Dispose
- Circular economic models in consumer goods sector (other than recycling):
  - Reuse (time and function) → Reselling
  - Repair; Refurbish; (Remanufacture)
  - Sharing
  - Product-as-a-Service ('PaaS')



#### **Stanford University**

## 2. A slightly easier case for product liability in circular economy?

- Reuse and Repaired or Refurbished goods: less (and less clear) safety regulation
- Reselling, Sharing and PaaS: more problematic downstream communication or tailoring of safety information
- Reuse and Repaired or Refurbished goods: less market forces

# 2. A slightly easier case for product liability in circular economy?

- Reuse and Repaired or Refurbished goods: consumers even more likely to underestimate (or overestimate) product risks
  - → bigger price-signalling benefit
- More injured third-parties
  - → no market forces at all for deterrence and pricesignalling
  - \* redistribution from linear to circular consumers

## 2. A slightly easier case for product liability in circular economy?

- Voluntary warranties = inadequate alternative
  - → do not protect injured third parties
  - → multitude of actors affecting expected accident costs.
- ←→ Higher litigation costs
  But safety regulation and insurance alternatives may also be costlier and less complete
- Conclusion:
  repair > reuse and reselling > sharing > PaaS

## 3. Original manufacturer liability and circular economy

- Inherent tension
- Limitations
- General case seems stronger for strict liability than for negligence:
  - more deterrence
  - more price-signalling benefit
  - bigger risk-allocation benefit (if plaintiff is more risk-averse).

## 3. Original manufacturer liability and circular economy

- Circular economy arguments in favor of strict liability:
  - Higher chance of consumer misinformation
  - More costly to enforce standard of care of "reasonable product safety"
     (←→ more litigation?)
  - Risk-averse end-users but more risk-neutral original manufacturers
     (←→ FPA insurance efficiency > liability insurance)
  - More injured third parties
- Plaintiff behavior can also affect risk → strict liability with contrib/comp negligence.

### 4. Liability of new circular actors

#### Professional Reseller liability:

- ←→ rationale for seller liability in linear model
- Wear and tear + possible modifications after product left control of OM → need for inspection (CPSA)
- Need for safety communication (CPSA)
- Moral hazard problem
- Literature on comparable "transfers of liability risks"
   (Segerson 1994; Choi 2007): buyer's misperceptions of risk reasons for not transferring liability; seller unlikely to be more JPP than buyer

Strict liability (same) ←→ Negligence: lower chance of third party victims; less control over risks than manufacturer; heterogeneity of resold products; FPA > liability insurance.

### 4. Liability of new circular actors

Professional Service-provider liability

#### Prosumer liability:

- Hay & Spier 2005: Arguing for 'exclusive consumer liability' in case of heterogenous consumers (= prosumers in CE), otherwise 'residual manufacturer liability'.
- But solely imposing liability on prosumers may go too far:
  - Prosumers misperceive risks
  - Prosumers still take some care under J&S liability
  - High risk of prosumers being JPP → need to retain incentives for OM's care

### 5. Multitude of potential injurers

- Dispersed or centralized liability?
  - Coase theorem; litigation costs.
  - ←→ Transaction costs, especially in CE: actors may not know each other and more third party victims

#### Contributory or comparative negligence?

- Comparative negl. exacerbates risk that risk-affecting plaintiff who underestimates risk decides (i) not to comply with standard of care; (ii) not to purchase PFA insurance.
- Reduction of incentives to take care under comparative negl. may be overstated, because consumers who do not meet standard of care rarely claim for accidental injuries.
- Contributory negl. can remove safety incentives for other actors.

### 5. Multitude of potential injurers

- Joint & Several or Several-only liability?
  - Settlements: S-only because J&S discourages settlements
    ←→ not true in cases of low solvency (CE).
  - Deterrence:
    - Full solvency + negligence: J&S (under strict liability no difference)
    - Exogenous solvency: J&S ←→ only sometimes in CE
  - Fairness:
    - J&S redistributes from defendants to plaintiff: preferable if plaintiffs struggle to prove liab., not if liab. is uncertain
    - S-only because J&S places disproportionate burden on defendant with smallest liability share
    - J&S is more balanced for insolvency risk of defendant
  - Insurance: S-only because J&S raises uncertainty for insurers

### 6. Judgement proof problem

- In CE more low solvency/risk types of JPP
- Potential mitigation?
  - Vicarious liability: e.g. repair café.
  - Minimum asset requirements: crude, prevents participation
    → only for most risky activities by professionals
  - Criminal liability: idem
  - Regulation: see limitations and costs §1.
  - FPA insurance: both public and private.
  - Mandatory liability insurance: if insurers can sufficiently monitor conduct.
  - Prohibiting liability insurance: if they cannot.