



ELLEN MACARTHUR
FOUNDATION

THE
FASHION
REMODEL

THE NEW BOTTOM LINE

TECHNICAL
APPENDIX

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Initial modelling and stakeholder interviews with resale and repair businesses were undertaken by Eunomia Research & Consulting Ltd during the first phase of the project. All interviews were conducted under non-disclosure agreements. In the second phase, KnowlEdge Srl further refined and validated the economic model and carried out a comprehensive quality assurance process.

OVERVIEW OF THE MODEL

CALCULATION LOGIC

The model follows a three-step logic flow to determine outcomes:

Unit cost impact: how the policy (and policy mix) affects the variable cost per unit in the linear business model as well as in the resale and repair business model.

Margin impact: the resulting change in gross profit margin if the business maintains current price points, and assuming a 0% passthrough rate, or if the benefit is passed-through to consumers at 75% rate for mass-market scenarios and 25% for high-end scenarios.

Market share projection: using a specific pass-through rate and price elasticity of demand value within each scenario, the model calculates potential volume growth if cost savings are used to lower consumer prices.

KEY ASSUMPTIONS

1. For the purpose of the modelling, we have assumed that the gross margin for linear business models (for clothing) is approximately 50% within the mass-market segment, and 70% within the high-end and luxury segments. This assumption serves as a practical benchmark rather than a precise industry-wide figure. In reality, gross margins across the clothing sector vary significantly due to several structural factors, including brand positioning, region, and product category.
2. When modelling market share changes, the model assumes a pass-through rate of 75% within the mass-market segment and 25% within the high-end and luxury segment. This reflects the structural economics with tighter margins and price-based competition for mass-market clothing. We recognise that pass-through rates vary depending on the brand positioning and competitive strategies pursued. The stated percentages provide a reasonable simplification for the purpose of the modelling.
3. The model assumes that labour costs make up 35% of the total per-unit costs within resale business models, and 50% within repair business models. This is based on interviews with resale and repair businesses, carried out by Eunomia Research & Consulting Ltd.
4. We have accounted for geographical specificity by adjusting model parameters to reflect the specific dynamics within the selected markets (see next section). These parameters include trade data, average unit prices, estimated market size for repair and resale, displacement rate, as well as price elasticity of demand.
5. The model assumes that lower prices will drive adoption of resale and repair services. However, this may not translate into higher sales or revenue in markets where demand is relatively inelastic for clothing products. In such cases, if increased volumes in repair or resale services do not offset price reductions, the overall sector revenue could decline.
6. The model assumes that price sensitivity is typically higher in the mass-market than in the high-end segment. In part, this reflects the relationship between income levels and consumption behaviour: mass-market products generally have lower unit prices and are purchased more frequently by consumers with lower disposable incomes, for whom out-of-pocket costs represent a larger share of their budget. As a result, an equivalent percentage change in price is likely to have a larger impact on the demand for lower priced goods than on higher priced goods. Conversely, for high-end (premium) products, consumers typically have greater disposable income and often place a relatively higher value on product attributes other than price (brand, quality, exclusivity). In light of the above, the price elasticity of demand was set at -0.58 to -1.11 for mass-market and -0.4 to -0.5 for high-end.

LIMITATIONS OF THE MODEL

Data: Calibrating the model was constrained by the lack of available data on current resale and repair markets, consumer preferences, and cost structures. As a result, the findings are sensitive to the assumptions outlined above.

Economies of scale: The model does not estimate how costs change as sales increase. Circular business models may realise additional efficiencies as they scale – potentially gaining margin improvements or lowering prices further than indicated in this report – but this relationship is not captured.

Behavioural drivers: The model relies on price as the sole mechanism influencing consumer behaviour. Insights from psychology, behavioural science, anthropology, and business management could complement this analysis by examining additional drivers of consumer choice.

Static modelling: The model does not account for time dynamics, limiting the ability to contextualise how impacts may evolve or materialise over the short, medium, and long terms. Most baseline data reflects the year 2023, and no adjustments were made to account for inflation. In addition, the analysis assumes that resale supply and repair capacity can scale in line with increased demand. In practice, this may be constrained by factors such as product quality, reverse logistics infrastructure, and the availability of skilled repair labour, which could limit real-world applicability.

Interpretation: These limitations mean the results should be read as indicative of how sensitive the system is to policy changes, rather than as forecasts of precise future outcomes.



SCENARIO 1

MASS-MARKET CLOTHING RESALE IN SIX GEOGRAPHIES

MASS-MARKET CLOTHING ITEMS SOLD (NEW AND SECOND-HAND)

GEOGRAPHY	ITEMS SOLD	SOURCE	NOTES
Poland, 2023	1,175,362,587	Based on OC&C Consulting (2025), "Second-hand fashion: how first-hand brands can compete and thrive" (link). Adapted based on ReFashion France data, 2025 (link) for fashion items sold disaggregation for clothing = 91.45% of units sold); and mass-market make-up of fashion market (mass-market = 391% of units sold).	This figure has been cross-checked and the estimate aligns with Eurostat production, imports and exports data.
Germany, 2023	2,785,187,841	Estimated based on OC&C Consulting data, 2025 (link) as the average for Poland, UK, and France. Adapted to German market size based on Mintel data (link): "In 2024, EUR 65.6bn in value of sales, an uplift of 4.5% from 2023." Mass-market adjustment as above.	This figure has been cross-checked and the estimate aligns with Eurostat production, imports and exports data.
France, 2023	1,912,939,991	Based on OC&C Consulting data, 2025 (link). Mass-market adjustment as above.	This figure has been cross-checked and the estimate aligns with Eurostat production, imports and exports data.
California, 2023	2,956,542,021	Based on US Census Data for 2022, (link) 3.9% assumed growth for 2023 based on Mintel data (link), mass-market adjustments as above, and avg unit price (see below).	This figure has been cross-checked with McKinsey Closing the Loop data, 2020 (link): 32.6bn units in 2020, 1.3% CAGR projected through 2026.
Michigan, 2023	273,069,228	Based on US Census Data for 2022, (link) 3.9% assumed growth for 2023 based on Mintel data (link), mass-market adjustments as above, and avg unit price (see below).	
British Columbia, 2024	237,165,990	Based on Government of Canada data for 2024, (link). Adjusted for US Dollars: 1 CAD = 0.72 USD (XE rates on 27 August 2025). Adjusted based on mass-market share as above, and average unit price (see below).	

AVERAGE PRICE PER UNIT (NEW, MASS-MARKET ITEM)

GEOGRAPHY	VALUE	SOURCE	NOTES
Poland	EUR 11.95	Based on OC&C Consulting (2025), “Second-hand fashion: how first-hand brands can compete and thrive” (link): average price of EUR 17.66. Adjusted based on ReFashion France data, 2025 (link): non-high-end fashion = 0.68x overall avg unit price.	
Germany	EUR 13.50	Based on OC&C Consulting average for Poland, UK, and France: EUR 19.96. Adjusted based on ReFashion France data, 2025 (link): non-high-end fashion = 0.68x overall avg unit price.	No country-level data available.
France	EUR 16.70	Based on OC&C Consulting 2025 average new price EUR 24.71. Adjusted based on ReFashion France data, 2025 (link): non-high-end fashion = 0.68x overall avg unit price.	
California	USD 13.31	Based on average clothing retail prices at Walmart (USD 10.82) and Target (USD 14.79) in the United States as of 2018 from Statista (link). Adjusted for price inflation using the US Consumer Price Index (CPI) for clothing expenditure, also sourced from Statista (link), which recorded an index value of 125.65 in 2018 and 130.58 in 2023.	
Michigan	USD 13.31	Same as above.	
British Columbia	CAD 21.00 (USD 15.13)	Based on California prices, and corrected with World Bank International Comparison Program data for 2021 (link), showing clothing prices were at 139.6 index points in Canada and 122.8 index points in the US.	

GROSS MARGIN PER UNIT (NEW, MASS-MARKET ITEM)

MARKET SEGMENT	VALUE	SOURCE	NOTES
Mass-market	50%	EMF expert judgement.	Margins may vary by brand, geography, product category or other factors. This figure has been cross -checked with McKinsey (2022), The State of Fashion 2023 (link); BTE (n.d) (link).

RESALE BUSINESS MODEL PARAMETERS (MASS-MARKET)

PARAMETER	VALUE	SOURCE	NOTES
Resale price as a percentage of original retail price (mass-market)	55%	EMF expert judgement.	This figure has been cross-checked with PwC (2024), Circular Fashion: Making Resale a Reality; McKinsey (2020), Fashion on Climate; ReFashion France (2026) An overview of the French second-hand Clothing textiles, Household linen and (CHF) market's practices and trends in 2024, (link); Reskinned (n.d.; link ; accessed on Mar 19, 2026).
Cost of resale as a share of resale price	70%	Assumption based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	Costs may vary depending on resale business model, product type or other factors. Includes cost of acquisition (e.g. buying the item back from the customer).
Gross profit margin for resale	30%	See above.	
Share of labour in resale costs	35%	EMF expert judgement based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	This figure may vary by resale provider, geography, product category or other factors.
Displacement rate	65%	WRAP (2025), Displacement Rates Untangled (link).	This figure may vary by resale service provider, geography, consumer profiles or other factors.

RESALE SHARE OF TOTAL PRODUCT SALES (VALUE)

GEOGRAPHY	VALUE	SOURCE	NOTES
Poland, 2023	10.3%	Based on OC&C Consulting (2025), "Second-hand fashion: how first-hand brands can compete and thrive" (link).	
Germany, 2023	10.0%	Based on the average from Poland, UK, and France data points from OC&C Consulting (2025).	
France, 2023	9.6%	Based on OC&C Consulting (2025), "Second-hand fashion: how first-hand brands can compete and thrive" (link).	
California, 2023	12.7%	Assumed same value as US national, in the absence of breakdown by state. Estimated with the total US second-hand value for 2023 (ThredUp, 2025) and the total clothing sales for 2023 (US Census, 2022; 3.9% growth, Mintel).	
Michigan, 2023	12.7%	Assumed same value as US national, in the absence of breakdown by US state.	
British Columbia, 2023	12.7%	Assumed same value as US national, in the absence of reliable data for Canada/British Columbia market.	

OTHER PARAMETER ASSUMPTIONS

PARAMETER	POLAND	GERMANY	FRANCE	CALIFORNIA	MICHIGAN	BRITISH COLUMBIA
Price Elasticity of Demand (PED)	1.11	0.70	0.75	0.72	0.58	0.82
Sensitivity of price	1.59	1.00	1.07	0.83	1.03	1.17
Pass-through rate	75%					

SCENARIO 2

MASS-MARKET CLOTHING REPAIR IN GERMANY, POLAND

Mass-market clothing items sold (new and second-hand):

Same as Scenario 1

Average price per unit (new, mass-market item):

Same as Scenario 1

Gross margin per unit (new, mass-market item):

Same as Scenario 1

PRICE FOR REPAIR (MASS-MARKET)

GEOGRAPHY	VALUE	SOURCE	NOTES
Poland, 2023	EUR 8.0	Expert judgement, based on basic repair cost examples across the UK and NL in March 2026, adjusted downwards for the Polish market.	
Germany, 2023	EUR 15.0	Expert judgement, based on basic repair cost examples across the UK and NL in March 2026.	

REPAIR BUSINESS MODEL PARAMETERS

PARAMETER	VALUE	SOURCE	NOTES
Cost of repair as a share of repair price	85%	Assumption based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	Costs may vary depending on repair business model, repair type or other factors.
Share of Labour in Total Per-Unit Costs	50%	EMF expert judgement based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	This figure may vary by repair provider, geography, product category or other factors.
Displacement rate: Repair, mass-market	100%	EMF expert judgement.	We have assumed that if a customer is willing to make the effort of repair, there is sufficient emotional durability at stake to assume that there will be no additional purchase made. Repair channels also differ structurally from resale platforms, in that they do not expose customers to additional products, reducing the likelihood of incidental purchasing. We acknowledge this does not fully account for rebound effects (e.g. money saved on repair being spent on new items), but consider this a reasonable progressive assumption.

REPAIR SHARE OF TOTAL PRODUCT SALES (VALUE)

GEOGRAPHY	VALUE	SOURCE	NOTES
Poland	0.58%	Based on Federation de La Mode Circulaire and KPMG (2024): The total clothing market in Europe (excluding France) is valued at EUR 294 billion, with the clothing repair market representing EUR 1.7 billion (excl France 1b from total 2.7b) in 2024. This means repair activity accounts for 0.58% of the total EU market. We assumed this repair market share for Poland.	This assumption was made due to very limited data covering the size of the repair market in Poland.
Germany	0.58%	Federation de La Mode Circulaire and KPMG (2024): The total clothing market in Europe (excluding France) is valued at EUR 294 billion, with the clothing repair market representing EUR 1.7 billion (excl France 1b from total 2.7b) in 2024. This means repair activity accounts for 0.58% of the total EU market. We assumed this repair market share for Germany.	This assumption was made due to very limited data covering the size of the repair market in Germany.

DEMAND PARAMETER ASSUMPTIONS

PARAMETER	POLAND	GERMANY
Price Elasticity of Demand (PED)	-1.5	-1.5
Sensitivity of price	1.59	1.00
Pass-through rate	75%	

SCENARIO 3

HIGH-END CLOTHING RESALE IN GERMANY, BRITISH COLUMBIA

PRICE FOR NEW ITEM (HIGH-END)

GEOGRAPHY	VALUE	SOURCE	NOTES
Germany	EUR 88.0	Estimated based on average price for new items (see Scenario 1). Adjusted to high-end prices based on ReFashion France data: high-end is approx. 4.4x more than average unit price.	
British Columbia	USD 98.7 (CAD 137.0)	Estimated based on average price for new items (see Scenario 1). Adjusted to high-end prices based on ReFashion France data: high-end is approx. 4.4x more than average unit price.	

AVERAGE GROSS MARGIN FOR NEW CLOTHING AND ACCESSORIES

MARKET SEGMENT	VALUE	SOURCE	NOTES
High-end	60%	Based on Scenario 1 figure, adjusted upwards for the high-end segment.	

RESALE BUSINESS MODEL PARAMETERS

PARAMETER	VALUE	SOURCE	NOTES
Resale price as a percentage of original retail price (high-end)	60%	Based on Scenario 1 figure, adjusted upwards for the high-end segment.	
Cost of resale as a share of resale price	70%	Assumption based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	Costs may vary depending on resale business model, product type or other factors. Includes cost of acquisition (e.g. buying the item back from the customer).
Share of labour in total per-unit costs	35%	EMF expert judgement based on interviews with resale and repair businesses, undertaken by Eunomia Research & Consulting Ltd during the first phase of the project.	This figure may vary by resale provider, geography, product category or other factors.
Displacement rate: Resale/high-end	75%	Based on Scenario 1 figure, uplifted to 75% for high-end, cross-checked with Vestiaire Collective (2025), "Shaping a Circular Future: Our 2025 Report" (link).	

RESALE SHARE OF TOTAL PRODUCT SALES (VALUE)

GEOGRAPHY	VALUE	SOURCE	NOTES
Germany	10%	Assumed same value as Scenario 1.	
British Columbia	12.7%	Assumed same value as Scenario 1.	

DEMAND PARAMETER ASSUMPTIONS

PARAMETER	GERMANY	BRITISH COLUMBIA
Price Elasticity of Demand (PED)	-0.4	-0.4
Sensitivity of price	1	1
Pass-through rate	25%	

POLICY INTERVENTIONS MODELLED

EXTENDED PRODUCER RESPONSIBILITY (EPR) [CANADA, EU, AND THE US]

This study has modelled the implementation of mandatory, fee-based Extended Producer Responsibility (EPR) for textiles, with specific incentives for resale and repair. Moving beyond its traditional focus on material recovery, this study has modelled an ambitious implementation of EPR that aspires to targets on reuse and repair, going beyond the minimum requirements of the respective legal frameworks. In practice, this translates into a cost coverage of activities related to reuse and repair, alongside collection, sorting, recycling, and disposal.

To reflect this expanded cost coverage, the model assumes a fee of EUR 0.25 / USD 0.29 / CAD 0.39 per item. These figures were developed by Eunomia Research & Consulting Ltd, in part based on analysis carried out for the Textiles Policy CBA report, prepared by Eunomia Research & Consulting Ltd and published by WRAP.

A portion of these fees is ringfenced to financially support resale and repair activities. For each region, the allocation was made to align with the incidence of resale and repair in the market (see Resale/repair share of total product sales in the preceding section).

For simplicity, the model does not take into account ecomodulation. Nevertheless, the introduction of differentiated fees remains crucial for stimulating circular product design, as it influences key decisions related to product performance and material selection.

VAT [EU] - SALES TAX [CANADA, US]

This study has modelled a scenario where VAT and sales tax on resale are reduced (EU) or eliminated (US, Canada), combined with a reduced VAT rate on repair in the EU.

Value Added Tax (VAT) and sales taxes are considered consumption taxes, typically paid by the end customer. In both cases, businesses collect the tax and remit it to the government. While VAT can be levied at each stage of the production and distribution chain of a product, sales tax typically only applies to the final point of sale. The EU VAT Labour-Services Directive (2009) enables Member States to implement a targeted reduction of VAT for labour-intensive services including small repairs, with a minimum allowed of 5%.

In this study, we have modelled the following policy changes:

- France: VAT rate for resale reduces from 20% to 6%
- Germany: VAT rate for resale reduces from 19% to 6%
- Poland: VAT rate for resale reduces from 23% to 6%
- California: Sales tax for resale reduces from 8.8% to 0%
- Michigan: Sales tax for resale reduces from 6% to 0%
- British Columbia: Federal sales tax for resale reduces from 5% to 0%

British Columbia utilises a 12% combined tax rate (5% GST + 7% PST), but an exemption is in place for used clothing priced under CAD 100. While vendors are not legally required to provide this exemption at the point of sale, we have assumed it is in place for our model and have further included a 5% federal tax exemption to render the item fully tax-exempt. This is a departure from other North American interventions, which are modelled at the state and provincial level. Because the average price for high-end clothing in Scenario 3 is CAD 89.89, we have maintained a 5% tax reduction to reflect eligibility for this exemption while accounting for the remaining Federal GST.

The baseline VAT and sales tax rates are understood to apply primarily to resale businesses acting as taxable sellers. Peer-to-peer transactions (by private individuals) would not be subject to the same VAT and sales tax regime.

In addition, scenario 2 models a reduced VAT rate for repair in Germany (from 19% to 6%) and Poland (from 23% to 6%).

For simplicity, we have excluded the VAT margin scheme from the model due to a lack of data on its current application in the resale sector for clothing. While we have carried out a series of interviews with businesses offering resale, it remains unclear whether the scheme is widely used in practice.

LABOUR-BASED TAX CREDITS [CANADA, US] AND REDUCED LABOUR TAXES [EU]

This study has modelled policy interventions that can bring down the cost of labour for repair and resale business models. Specifically, we have focused on reducing income tax (employer SSC) in the EU. In the EU, the model reduces the employer SSC contribution as part of the overall tax wedge, reducing the contribution to 10% for circular jobs. This compares to a baseline of 26.7% (France), 14.1% (Poland) and 16.8% (Germany).

All employees working in resale and repair business models are treated as holding circular jobs. For modelling purposes, this applies even if only part of their role is directly linked to resale and repair activities.

In Canada and the US, we modelled labour-focused tax credits equivalent to approximately a 5% reduction in employer SSC on gross wages, from 7.5% to 2.1% in California and Michigan and 8.7% to 3.3% in British Columbia, for jobs inherent to resale and repair activities.

In the Canadian and the US jurisdictions covered in this report, this is designed as the state/province providing a state tax credit for a portion of the federal SSC tax paid, which serves as one potential path for subnational governments to target resale and repair labour costs without necessitating coordination with the federal government.

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