

MODEL TAXATION AND REPAIR

Document 2 — Results and Conclusions

Fiscal year: 12 months — nbt = 12

1. Purpose of this document

This document presents the results obtained from the model over a **12-month fiscal year**.

The analysis focuses on the combined influence of **Purchasing Power** and the **Repair VAT rate** on three main indicators:

- **Repairs**
- **Manufacturer**, representing the effect on new product renewal
- **Total VAT revenue**

The results are compared with the reference domain:

PP reference / VAT reference

2. Scenarios analyzed

The results presented focus on the three representative domains:

Domain	Purchasing Power	Repair VAT
PP increases / VAT increases	Increases	Increases
PP reference / VAT reference	Reference	Reference
PP decreases / VAT decreases	Decreases	Decreases

Three other domains of the combined vector are not included in the final analysis because their influence on the results studied is redundant with that of the selected domains.

3. Results at 12 months

The results obtained at the end of month 12 are:

Indicator	PP increases / VAT increases	PP reference / VAT reference	PP decreases / VAT decreases
Cumulative repairs	15	60	135
Manufacturer	-1,245	-1,200	-1,125
New product VAT revenue	124,500	120,000	112,500
Repair VAT revenue	225	600	675
Total VAT revenue	124,725	120,600	113,175

Note concerning Manufacturer

The **Manufacturer** stock is represented by negative values in the model.

The variations are therefore calculated using its **absolute value**:

- Reference: $\text{Abs}(-1,200) = 1,200$
- PP increases / VAT increases: $\text{Abs}(-1,245) = 1,245$
- PP decreases / VAT decreases: $\text{Abs}(-1,125) = 1,125$

4. Variation results

The general formula is:

$$\text{Variation (\%)} = ((\text{Scenario value} - \text{Reference value}) / \text{Reference value}) \times 100$$

For **Manufacturer** and **Tax reserve**, absolute values are used in accordance with the model's representation.

The resulting indicators are:

Indicator	PP increases / VAT increases	Reference	PP decreases / VAT decreases
Repair variation	-75%	0%	+125%
Manufacturer variation	+3.75%	0%	-6.25%
Total VAT revenue variation	+3.4204%	0%	-6.1567%

5. Repair variation

Under **PP increases / VAT increases**, cumulative repairs are **15**, compared with **60** in the reference scenario.

Therefore:

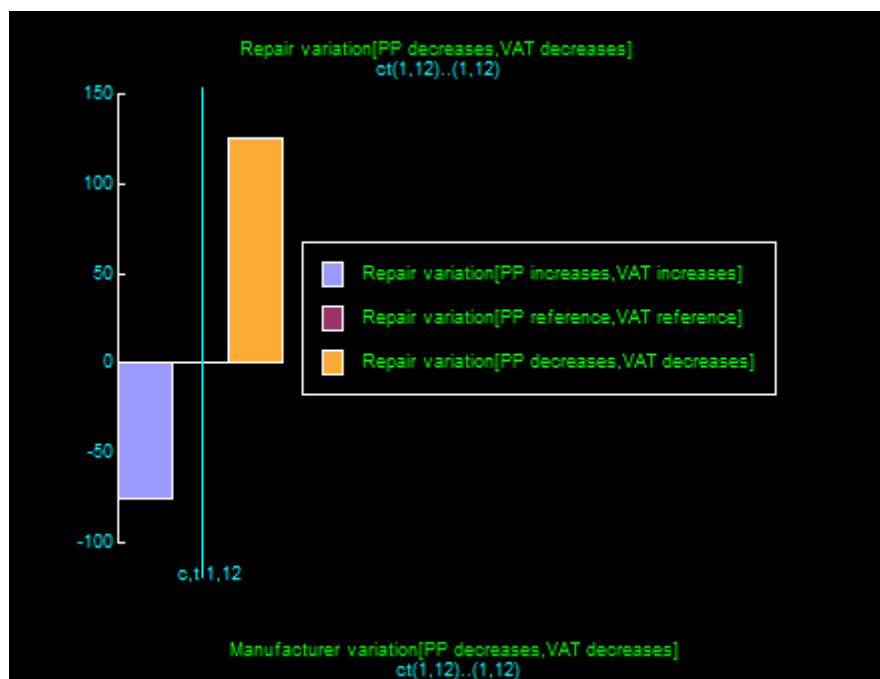
$$(15 - 60) / 60 \times 100 = -75\%$$

Under **PP decreases / VAT decreases**, cumulative repairs reach **135**:

$$(135 - 60) / 60 \times 100 = +125\%$$

The repair activity therefore shows a very strong sensitivity to the combined changes in Purchasing Power and Repair VAT.

GRAPH — REPAIR VARIATION



- Indicator: **Repair variation**
- Period: **12-month fiscal year**
- $nbt = 12$
- Reference: **PP reference / VAT reference = 0%**
- Domains:
 - PP increases / VAT increases: **-75%**
 - PP reference / VAT reference: **0%**
 - PP decreases / VAT decreases: **+125%**

6. Manufacturer variation

The Manufacturer stock reaches:

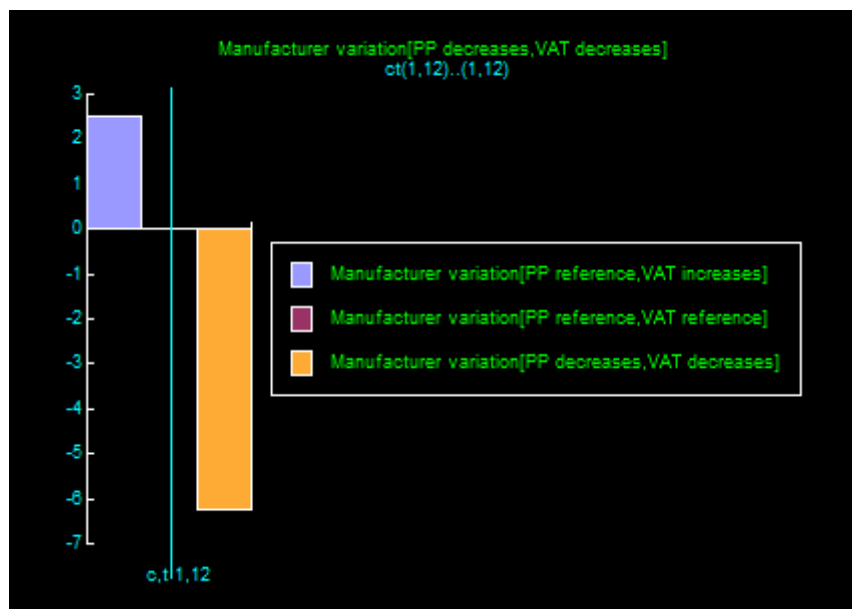
- **-1,245** for PP increases / VAT increases;
- **-1,200** for the reference scenario;
- **-1,125** for PP decreases / VAT decreases.

Using absolute values:

- 1,245 compared with 1,200 → **+3.75%**
- 1,125 compared with 1,200 → **-6.25%**

The Manufacturer therefore shows a much smaller variation than Repairs.

GRAPH — MANUFACTURER VARIATION



- Indicator: **Manufacturer variation**
 - Period: **12-month fiscal year**
 - nbt = 12
 - Reference: **PP reference / VAT reference = 0%**
 - Domains:
 - PP increases / VAT increases: **+3.75%**
 - PP reference / VAT reference: **0%**
 - PP decreases / VAT decreases: **-6.25%**
-

7. Total VAT revenue variation

At the end of the 12-month period, Total VAT revenue is:

- **124,725** for PP increases / VAT increases;
- **120,600** for the reference scenario;
- **113,175** for PP decreases / VAT decreases.

The variations relative to the reference are:

PP increases / VAT increases

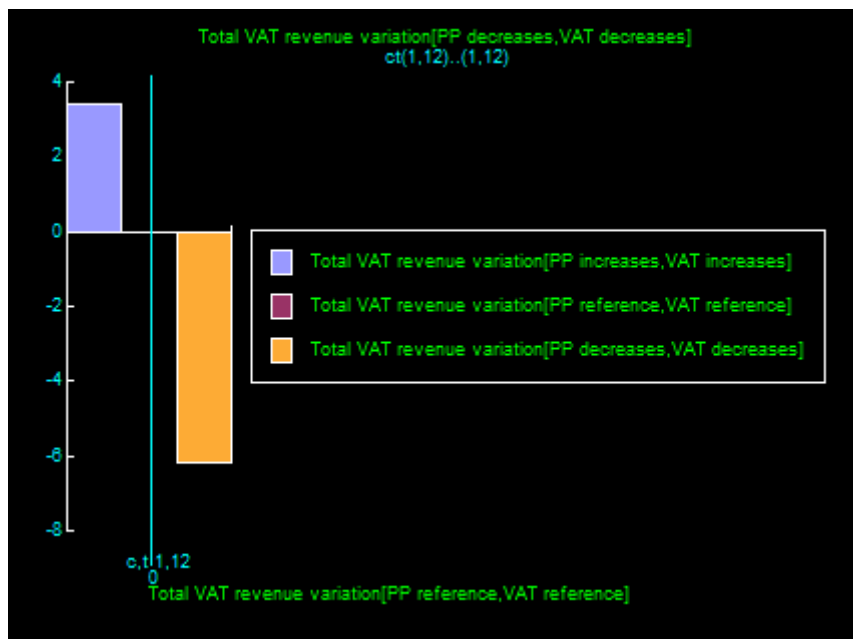
$$(124,725 - 120,600) / 120,600 \times 100 = +3.4204\%$$

PP decreases / VAT decreases

$$(113,175 - 120,600) / 120,600 \times 100 = -6.1567\%$$

Total VAT revenue therefore follows the same general direction as the Manufacturer, with a slightly different magnitude.

GRAPH — TOTAL VAT REVENUE VARIATION



INSERT GRAPH HERE — TOTAL VAT REVENUE VARIATION

- Indicator: **Total VAT revenue variation**
- Period: **12-month fiscal year**
- nbt = 12
- Reference: **PP reference / VAT reference = 0%**
- Domains:

- PP increases / VAT increases: **+3.4204%**
- PP reference / VAT reference: **0%**
- PP decreases / VAT decreases: **-6.1567%**

8. Summary of results

The three indicators show very different levels of sensitivity.

Indicator	PP increases / VAT increases	PP decreases / VAT decreases
Repair	-75%	+125%
Manufacturer	+3.75%	-6.25%
Total VAT revenue	+3.4204%	-6.1567%

The most significant effect is therefore observed in **Repairs**.

A variation of **-75%** or **+125%** in repairs results in a much smaller variation of only a few percent in the Manufacturer and Total VAT revenue.

9. Interpretation

The model highlights a significant difference in the sensitivity of the various flows.

When **Purchasing Power increases** and **Repair VAT increases simultaneously**:

- repairs decrease significantly;
- new product renewal increases;
- total VAT revenue increases.

Conversely, when **Purchasing Power decreases** and **Repair VAT decreases**:

- repairs increase significantly;
- new product renewal decreases;
- total VAT revenue decreases.

The **Repair compensation** action within the **Entry into use** flow represents the transfer between repair activity and new product renewal.

10. Conclusion

For the fiscal year studied, the model shows that changes in **Purchasing Power** and **Repair VAT** have a **very strong effect on Repairs**.

By contrast, the effect on the **Manufacturer** and **Total VAT revenue** is considerably more moderate.

The three indicators provide a concise summary of the model's behavior:

Repairs → very strong effect

Manufacturer / new product renewal → moderate effect

Total VAT revenue → moderate effect

This presentation through relative variations compared with the reference scenario makes it possible to directly highlight the impact of the different scenarios on the balance between **repair, product renewal and tax revenue**.

11. Validated results for the 12-month fiscal year

For $nbt = 12$, the validated results are:

Repair variation

- PP increases / VAT increases: **-75%**
- PP reference / VAT reference: **0%**
- PP decreases / VAT decreases: **+125%**

Manufacturer variation

- PP increases / VAT increases: **+3.75%**
- PP reference / VAT reference: **0%**
- PP decreases / VAT decreases: **-6.25%**

Total VAT revenue variation

- PP increases / VAT increases: **+3.4204%**
- PP reference / VAT reference: **0%**
- PP decreases / VAT decreases: **-6.1567%**

These values constitute the validated numerical results for the **12-month fiscal year**.