

CHRONICLE N°12

Net operating income: the impact of support measures

For this second Chronicle on net operating income, and for the following ones on this theme, we are making the simplifying assumption (which will be lifted at a later date) that we are working on the case of a single-tenant building leased in part (between 0 and 100% of the building) at the initial date t_0 .

Unless otherwise specified, all calculations will be made per square metre (m^2). To obtain the total amount, simply multiply by the surface area concerned.

The aim of this series of Chronicles is to define a simple but complete formulation of net operating income and its rate of change.

Our starting point is the general formula presented in Chronicle 10.

$$(1) \text{ noi} = (\text{nrv} \cdot (1 + \text{ri}\%) \cdot (1 - \text{sm}\%) - \text{mc}) \cdot (1 - \text{vac}\%)$$

with:

- noi : net operating income
- nrv : net rental value
- $\text{ri}\%$: rent indexation
- $\text{sm}\%$: support measures (% of net rental value)
- mc : management costs
- $\text{vac}\%$: vacancy rate

Let's look at time. The property is let at the beginning of year 0 and the owner receives annual income adjusted for the various impacts (vacancy, management costs, etc.) over the following years. We consider that the support measures only concern the first year.

During the first year, the owner receives an income based on the net rental value less support measures impact and management costs, adjusted for the vacancy rate:

$$(2) \text{ noi}_{0,1} = (\text{nrv}_{0,1} \cdot (1 - \text{sm}\%_{0,1}) - \text{mc}_{0,1}) \cdot (1 - \text{vac}\%_{0,1})$$

In the second year, the support measures no longer have any effect, and the owner then receives an income based on the net rental value increased by rent indexation and reduced by management costs, adjusted for the vacancy rate:

$$(3) noi_{1,2} = (nr_{v_{1,2}} \cdot (1 + ri\%_{1,2}) - mc_{1,2}) \cdot (1 - vac\%_{1,2})$$

In the third year, the support measures no longer have any effect, and the landlord receives an income based on the net rental value increased by rent indexation and reduced by management costs, adjusted for the vacancy rate:

$$(4) noi_{2,3} = (nr_{v_{2,3}} \cdot (1 + ri\%_{2,3}) - mc_{2,3}) \cdot (1 - vac\%_{2,3})$$

Taking account of support measures only

In order to study only the impact of support measures, we assume the following simplifying hypotheses:

- **no rent indexation ($ri\% = 0$)**
- **no management cost ($mc = 0$)**
- **no vacancy rate ($vac\% = 0$)**

Taking account of support measures is not an easy task, as they can be many and varied: rent-free period, graduated rent, refurbishment work paid for by the landlord, etc.

We are therefore going to have to use a simplifying assumption that is widely used today in order to take these measures into account. We will only take into account the firm term of the lease: 3 years for a French traditional 3/6/9 lease, 6 years for a firm 6-year lease, 9 years for a firm 9-year lease, etc. And we will take into account the overall cost of the support measures over the entire firm term. Finally, we will divide this cost by the firm term of the lease to obtain an annualised cost that will be deducted from the income received through the rent. This cost can then be divided by the amount of rent received to obtain the support measure rate. This equation gives the following result:

$$(5) asm\% = \frac{smtc/ftl}{nr_{v}}$$

with:

- $asm\%$: average support measures (as % of net rental value over the firm term of the lease)
- $smtc$: support measures total cost
- ftl : firm term of the lease
- nr_{v} : net rental value

Let's take two examples:

Refurbishment only:

For a classic 3/6/9 lease with no rent-free period but with renovation costs payable by the landlord.

The rent is €300/m²/year and the cost of renovation is €90/m².

The tenant will therefore pay €300/m²/year every year (with no indexation), but the owner's net income will only be €300-90 = €210/m² in the first year and €300 in subsequent years.

Our simplifying assumption will spread the cost of the €90 over the firm term of the lease, in this case 3 years.

In the end, it's almost as if the landlord were paying a cost of 90/3=30€ per year for 3 years and therefore reducing the rent by 30/300=10% (the average rate of support measures over the firm term of the lease).

It is therefore nearly as if the income were 300 x (1 - 10%) = 270€/m² over the firm term of the lease.

Rent-free only:

The tenant negotiates a rent-free period of 12 months in exchange for a firm lease term of 6 years.

The rent is €600/m²/year.

The tenant will therefore pay nothing in the first year and then €600/m²/year for the next 5 years.

The simplifying assumption we are making is that the franchise charge (€600/m²) will be spread over the firm term of the lease, in this case 6 years, giving an annual charge of €100/m².

In the end, it's almost as if the landlord were paying a cost of €100 per year for 6 years and therefore reducing the rent by 100/600=17% (the average rate of support measures over the firm term of the lease).

It is therefore nearly as if the income were 600 x (1 - 17%) = 500€/m² over the firm term of the lease.

Of course, any combination of these two classic support measures is possible, and any other more specific support measures can be envisaged, as it is always possible to relate them to a percentage of the rent spread over the firm term of the lease in order to obtain an average rate of support measures.

So, the net operating income, in levels (*noi*), from equations (2) to (4) can then be written as follows:

$$(6) \text{ noi}_{0,1} = \text{nr}v_{0,1} \cdot (1 - \text{asm}\%)$$

$$(7) \text{ noi}_{1,2} = \text{nr}v_{0,1} \cdot (1 - \text{asm}\%)$$

$$(8) \text{ noi}_{2,3} = \text{nr}v_{1,2} \cdot (1 - \text{asm}\%) = \text{nr}v_{0,1} \cdot (1 - \text{asm}\%)$$

And so the growth rate of net operating income (*noi*%) is written:

$$(9) (1 + \text{noi}\%_{1,2}) = \frac{\text{nr}v_{1,2}}{\text{nr}v_{0,1}} = \frac{\text{nr}v_{0,1} \cdot (1 - \text{asm}\%)}{\text{nr}v_{0,1} \cdot (1 - \text{asm}\%)} = 1$$

$$(10) \leftrightarrow \text{noi}\%_{1,2} = 0$$

In the general case we find:

$$(11) \leftrightarrow noi\%_{t,t+1} = 0$$

Under simplifying assumptions, net income is reduced, and the net income growth rate is zero over the firm term of the lease.

This is perfectly normal, given the simplifying assumption that there is no indexation and that the cost of support measures is spread evenly over the firm term of the lease.

The next Chronicle will introduce the impact of management costs.

These chronicles are linked to my activity at the IEIF, a Paris based think tank on real estate where I conduct research into the modelling of major property variables. For those less familiar with property analysis, these chronicles can be a source of information and a knowledge base. For experts in the field, their purpose is to launch discussions and exchanges on the various subjects I cover. Some of the chronicles will be based on known and familiar elements, while others will deal with research elements and present some of the results of my work.