Wages

In H2 2021, the nominal average wage per capita (SMPT) in the non-agricultural market branches increased sharply (+5.0% in Q3 then +0.6% in Q4, ► **Figure 1**), due to a decline in the use of short-time working, as since the start of the health crisis compensations for short-time working had largely replaced wages. The renewal of the extraordinary purchasing power bonus (PEPA) and the +2.2% increase in the minimum wage (SMIC) on 1st October helped to ensure that wages remained dynamic. This automatic increase and the net upturn in inflation were the main contributory factors to the rise in the basic monthly wage (SMB, ► **Box**). All in all, by the end of the year the nominal SMPT had recovered its pre-health crisis trajectory. Thus on average in 2021, it rebounded significantly (+6.4% after –4.9%), whereas the purchasing power of the SMPT, eroded by the rise in prices, was a little less dynamic (+4.6% after –5.5%, ► **Figure 2**).

In Q1 2022, nominal wages are expected to remain buoyant. Notably, the SMPT is likely to increase by 0.9% (► **Figure 1**). In addition to the most recent increase in the SMIC by 0.9% on 1st January, nominal wages are also expected to receive a boost as in many branches, rising consumer prices and hiring difficulties are to be taken into account in wage negotiations. Short-time working, which was already weakening towards the end of 2021, is expected to fall back still further but only slightly, making only a small contribution to change in the SMPT. All in all and given the expected trend movement in prices, the growth overhang of the real SMPT at the end of March looks set to be positive for 2022 (+1.3%), despite a negative trend in Q1. The dynamism of wages is likely to continue in Q2, especially as there could be another increase in the SMIC, of at least 2%, given the possible change in prices.

In general government, the nominal SMPT increased by 1.4% in 2021, after +2.8% in 2020. This was mainly driven by the payment of exceptional bonuses to emergency workers mobilised in the context of the emergency health situation and by revisions to hospital civil service wages, planned in the "Ségur de la santé" agreements and implemented from autumn 2020. Given the rise in prices, general government wages in real terms declined slightly in 2021 (–0.3%, after +2.1% in 2020). In 2022, the nominal general government SMPT looks set to bounce back, mainly as a result of the increase in the wages of category C personnel. All in all, in general government at the end of March, the growth overhang of the SMPT in real terms for 2022 is nevertheless expected to be negative (–1.1%). ●

► 1. Variation in the basic monthly wage and the average wage per capita

changes in %, seasonally adjusted data

	Quarterly growth rates									Average annual change				Difference to average 2019
	2020				2021				2022	2019	2020	2021	2022 ovhg	2022 ovhg
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1					
Average wage per capita (SMPT) in non-agricultural market branches	–3.6	–11.4	16.5	–1.8	0.7	–0.2	5.0	0.6	0.9	2.3	–4.9	6.4	3.7	5.0
Basic monthly wage (SMB)	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.6	0.9	1.7	1.5	1.5	1.7	4.8
SMPT in general govemment (GG)										1.4	2.8	1.4	1.3	5.6
Household consumer prices (national quarterly accounts)	0.2	–0.1	0.2	0.0	0.8	0.3	0.8	0.8	1.3	0.8	0.6	1.7	2.4	4.8
Real WPS in the non-agricultural market branches	–3.8	–11.3	16.3	–1.9	0.0	–0.5	4.2	–0.2	–0.4	1.5	–5.5	4.6	1.3	0.2
Real WPS	0.2	0.5	0.2	0.4	–0.5	0.0	–0.4	–0.1	–0.4	0.9	0.9	–0.2	–0.7	0.0
Real WPS in GG										0.5	2.1	–0.3	–1.1	0.8

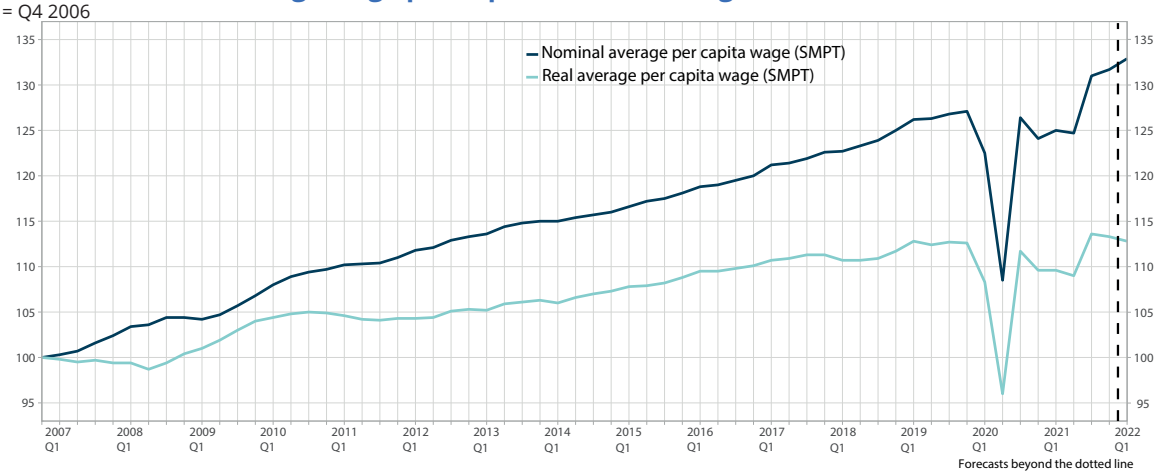
Forecast

Note: the quarterly ACEMO survey by DARES was suspended in Q2 2020 (data covering Q1 2020). The quarterly growth rates of the SMB in Q1 and Q2 2020 presented here are the result of estimates, consistent with the half-yearly variation in the SMB observed between Q4 2019 and Q2 2020.

Source: DARES, INSEE

► 2. Nominal and real average wage per capita and basic wage

base 100 = Q4 2006



Scope: non-agricultural market sector.
Source: INSEE

Forecasting changes in the basic monthly wage

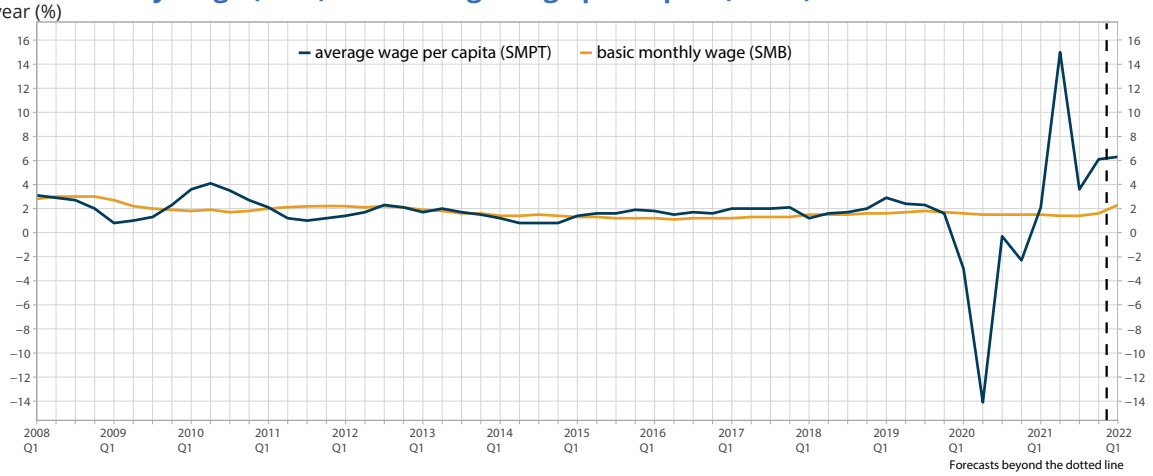
The end of 2021 and the start of 2022 were marked by a sharp upturn in inflation and growing hiring difficulties in several sectors. These factors are likely to increase the buoyancy of nominal wages.

In this context, change in the basic monthly wage (SMB) is a more relevant indicator than the average wage per capita (SMPT). The SMPT reflects change in all the components of wages, including the most short-term elements (compensation for sick leave or use of short-time working, overtime, bonuses), and as a result, changes in the SMPT have been very much affected by the health crisis in the last two years (► **Figure 3**).

The SMB, however, reflects mainly the underlying trend in wages. It generally corresponds to the first line of an employee's pay slip. It does not include the short-term components taken into account in the SMPT, nor the effects on the average wage of change in the structure of jobs (in particular those linked to the upward trend in average worker qualifications). Fluctuations in SMB are therefore usually smoother than those in SMPT, between +1.0% and +2.0% year-on-year per quarter since the end of 2012, including during the health crisis.

► 3. Basic monthly wage (SMB) and average wage per capita (SMPT)

year-on-year (%)



Scope: non-agricultural market sector for the SMPT, private sector employees excluding agriculture, private individual employers and extraterritorial activities for the SMB.
Source: INSEE, DARES

Thus change in the SMB demonstrates the result of collective wage negotiations better than the SMPT, where the main determinants are prices, the possible rise in the SMIC and tensions in the labour market. Econometric modelling of changes in the SMB, used for forecasting, consists in explaining the quarterly variation in the SMB (gross) as a function of variations in inflation and in the SMIC, and using the unemployment rate as an indicator of tension in the labour market[1].

The main model used for the SMB forecasting exercise is thus based on a linear dependence on change in wages in relation to these determinants:

$$\Delta ln(SMB_{brut})_t = \underset{(6,5)}{0{,}003} + \underset{(5,0)}{0{,}211}\Delta ln(IPC_{brut})_t + \underset{(1,4)}{0{,}074}\Delta ln(IPC_{brut})_{t-2} + \underset{(5,1)}{0{,}240}\Delta ln(IPC_{brut})_{t-3}$$
$$+\underset{(5,9)}{0{,}202}\Delta ln(SMIC_{<1998t4})_{t-1} + \underset{(4,4)}{0{,}072}\Delta ln(SMIC_{\geq 1998t4})_t$$
$$-\underset{(-3,2)}{0{,}001}(tcho_t - tcho_{moyen1975-2019}) + \underset{(2,9)}{0{,}002}T1_{<1998t4} - \underset{(-2,0)}{0{,}002}T2_{<1998t4} + \underset{(3,6)}{0{,}002}T1_{\geq 1998t4}$$

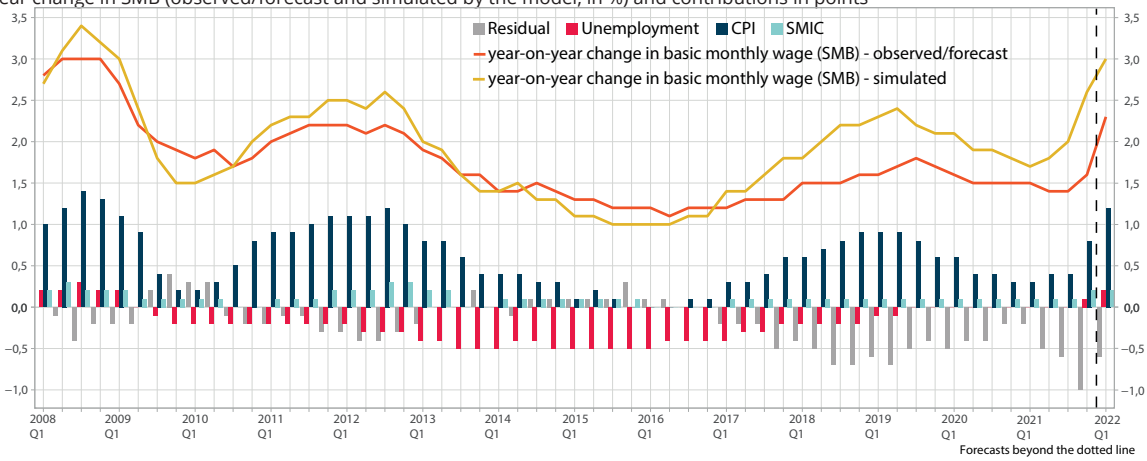
(Estimation period: 1985-2019)

In this model, variation in the consumer price index (CPI) is introduced as an explanatory variable, in the current quarter "t", and in previous quarters, so as to take into account the delay in adjusting wages to price changes.[2] The unemployment rate (variable "tcho"), expressed as a deviation from its average level over a long period, reflects the state of tension in the labour market. The SMIC is incorporated into the model by estimating separately its impact before and after the last quarter of 1998, to take into account the change in the frequency of measuring the SMB in the appropriate survey (ACEMO) at that date. Lastly, indicators for the first two quarters (T1 and T2) are added to the model to neutralise the seasonality of the price and wage variables.

The predictive power of a model like this is usually high, even if it has overestimated variation in the SMB in recent years (the residuals are systematically negative, especially outside the estimation period, ► **Figure 4**).

► 4. Forecasting model for the basic monthly wage (SMB): breakdown of observed then forecast SMB

year-on-year change in SMB (observed/forecast and simulated by the model, in %) and contributions in points



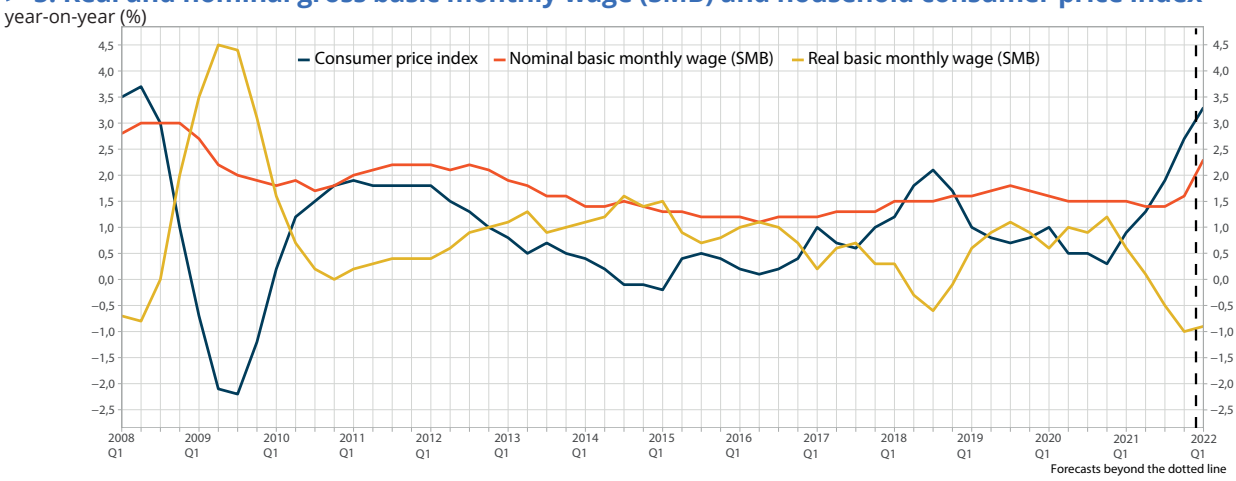
Scope: private sector employees excluding agriculture, private individual employers and extraterritorial activities.
Note: models are estimated over the period 1998 to 2019. The contribution of the constant (stable over the period), which also includes the average of residuals from 2008 to 2019, does not appear in this graph.
Source: INSEE, DARES

1 Other indicators of tension could be used, such as hiring difficulties (measured in INSEE's business tendency surveys), which are likely to have an upward influence on wages. Although the correlation is indeed established, it still appears that taking these hiring difficulties into account in the econometric equations does not significantly improve wage forecasting: these difficulties are above all highly correlated with the unemployment rate, which is already used as an indicator of tension (► **Focus** in *Conjoncture in France* by INSEE, June 2019 "Do recruitment difficulties help to explain recent wage trends in France?").

2 An alternative model could consist in imposing a unit indexation of wages to prices. However, empirically, indexing wages to prices emerges as partial and harking back to the mid-1980s. This could be because a larger share of wage indexation now uses the intermediary of anticipated prices (and hence the constant of the equation). This apparent deindexation of wages to prices also probably reflects the fact that from a microeconomic point of view, wage increases in companies are on the basis of agree-ments covering longer periods than before, compensating less systematically, or only partially, for recent inflation "surprises", whether up or down.

Thus, given the upturn in inflation, especially since summer 2021, and the automatic increase in the SMIC (+2.2%) which followed on 1st October 2021, the SMB was more dynamic at the end of 2021 (+1.6% year-on-year in Q4). In H1 2022, it will be even more so, in a context of high inflation, with tensions in the labour market resulting in relatively low unemployment and another increase in the SMIC (+0.9%) on 1st January (there could also be a new increase before the end of the half-year, given the possible rise in prices). Specifically, the SMB is expected to improve by +2.3% year-on-year in Q1 (+0.9% year-on-year). This acceleration is likely to be supported by collective wage negotiations, which for some should not become effective until spring. However, as has been the case since mid-2021, the upturn in inflation is eroding the purchasing power of the SMB, which is therefore expected to continue to fall in real terms in early 2022 (► **Figure 5**). ●

► 5. Real and nominal gross basic monthly wage (SMB) and household consumer price index



Scope: private sector employees excluding agriculture, private individual employers and extraterritorial activities.
Source: INSEE, DARES