



Wage negotiations in a context of rising inflation

The resurgence of inflation has changed the context in which wage talks are being conducted within industries and firms. The pass-through of price rises to wages (and vice-versa) is a key challenge for monetary policy and is being closely monitored. An analysis of thousands of industry and firm-level wage agreements in France shows a significant rise in negotiated wages between the end of 2020 and start of 2023. At the industry level, the rises have been fuelled by the upward revisions to the national minimum wage (NMW) in 2022. At the individual firm level, the negotiated pay rises for 2023 average 4.4% (compared with 2.8% in 2022 and 1.4% in 2021), which in many cases will be boosted by the *prime de partage de la valeur* (PPV – value-sharing bonus). These results are not indicative of a wage-price spiral, and are in line with the Banque de France’s projections for a gradual decline in inflation in 2023 and a return towards the Eurosystem’s 2% target by end-2024 to end-2025.

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JEL codes
E3, E5

+6.6%

increase in the NMW between January 2022 and January 2023

+4.9%

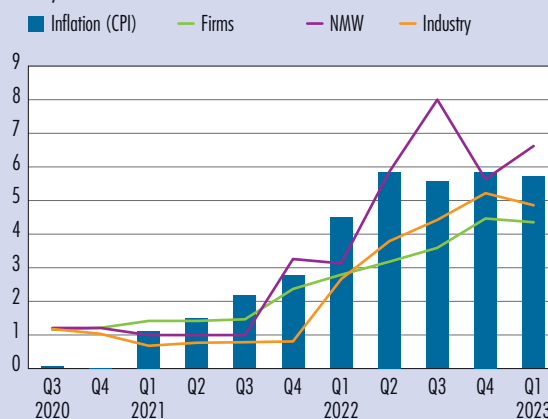
average rise in industry-specific wage floors between the first quarter of 2022 and the first quarter of 2023

+4.4%

average negotiated pay rise in the firm-level agreements signed at the end of 2022 and start of 2023

Increases in industry and firm-level negotiated wages, the NMW and inflation between 2020 and 2023

(year-on-year % change for NMW and industry-specific wage floors; average rise agreed in compulsory annual wage talks for firms)



Sources: Légifrance (industry and firm-level agreements), INSEE (CPI, NMW), Banque de France calculations.

Note: CPI, Consumer Price Index.



Consumer prices have risen sharply since the end of 2021: in annual average terms, inflation reached 5.2% in 2022 according to the Consumer Price Index (CPI) compiled by INSEE, and has stood at around 6% year-on-year since the summer of 2022. It is nonetheless expected to decline over 2023 and to come back towards 2% by end-2024 to end-2025 (Banque de France, 2023).

Higher inflation is increasing demand for higher wages, especially given the historically low unemployment rate and the recruitment difficulties being experienced by many sectors. However, an automatic and uniform pass-through of inflation to wages (as in the case of wage indexation) would contribute to persistent high inflation, which would be detrimental to the overall economy. In addition, an inflation shock stemming from higher imported prices, and especially from higher energy prices, such as that seen in 2021-22, acts as a regressive tax on national income which needs to be distributed fairly between households and firms.

In France, wages are negotiated or set at several levels. First, at the national level, the national minimum wage (NMW) sets a wage floor for all workers. Second, each bargaining industry negotiates wage floors for a set of representative job types, and these play a particularly important role for small enterprises. Last, at the individual firm level, and especially at large firms, union representatives and managers may sign collective wage agreements. Negotiations at all three levels generally take place annually. By analysing the agreements signed in several hundred industries and more than a thousand firms between the end of 2020 and start of 2023, this article describes how the inflationary shock has been taken into account in collective wage bargaining.¹

The main findings are as follows:

- The NMW has protected the purchasing power of low-paid workers as it is indexed to inflation. It has been revised upwards regularly since the end of 2021 by the cumulative rate of inflation.
- Many industry-specific wage floors were also revised upwards fairly rapidly in 2022 following the rise in the NMW. However, while the latter was 6.6% higher than a year earlier at the start of 2023, the average rise in industry-specific wage floors was just under 5%.
- This partial adjustment of industry-specific wage floors to the rise in the NMW or in inflation can be explained by the heterogeneity of pay rises depending on the industry or wage level. For example, those wage floors that are furthest above the NMW have seen the smallest rises.
- At the firm level, negotiated pay rises for 2023 average 4.4%, compared with 2.8% in 2022 and 1.4% in 2021.
- Wage rises in the manufacturing industry and in construction have been higher than in services, especially in those sectors experiencing the worst recruitment difficulties.
- Negotiated wage rises have not been uniform: a quarter of the agreements analysed provide bigger rises for lower paid staff.
- A third of firm-level wage agreements include the payment of a *prime de partage de la valeur* (PPV – value-sharing bonus) – of around EUR 900 on average – giving an additional one-off boost to total remuneration in 2023.

¹ Negotiated wages are not the only component of the change in total remuneration (see box).



BOX

Negotiated wages and remuneration: some definitions

- **Minimum wage and wage bargaining**

- **National minimum wage (NMW):** legal minimum hourly wage below which an employee cannot be paid. In France it is called the SMIC which stands for *salaires minimum interprofessionnel de croissance*. As at 1 January 2023, the gross hourly NMW was EUR 11.27; on 1 May 2023 it was increased by 2.19%.
- **Industry-level wage floor:** wage below which an employee cannot be paid by virtue of their position in the job classification defined by the collective agreement for the industry to which they belong. Wage floors are set in the industry-level collective bargaining agreements signed by social partners. If a wage floor is lower than the current level of the NMW, employees in the corresponding job category(ies) must be paid the NMW (source: Ministry of Labour).
- **Compulsory annual negotiations (NAO in French for *négociations annuelles obligatoires*):** the French Labour Code (Articles L. 2241-8 and L. 2242-13) stipulates that social partners at the industry level or at firms with union representation must meet at least once a year to discuss wages. There is no legal obligation to reach an agreement at the end of the bargaining process. Industry-level wage talks notably relate to wage floors while firm-level talks cover effective wages including certain items of variable remuneration.

- **Wages and remuneration**

- **Monthly base wage (MBW):** gross wage before deduction of employee social security contributions and payment of social security benefits. It does not include bonuses and overtime. The amount of the base wage is usually indicated in the first line of an employee's payslip (source: INSEE). It is set by agreement between the employer and employee (generally in the employment contract), and the amount can vary provided it complies with the NMW, the applicable industry-level wage floor and any collective bargaining agreement in force within the firm.
- **Total gross remuneration:** an employee's total gross remuneration consists of their base wage plus any variable components of their remuneration.

On average, the base wage makes up 80% of an employee's total remuneration (DARES, 2018).

The variable components of remuneration include:

- 1) bonuses and other benefits (thirteenth month, exceptional bonus, benefits in kind, etc.), pay for overtime (full-time employees) or extra hours (part-time employees);
- 2) employee savings schemes (e.g. profit-sharing schemes) and top-up payments made by the employer to company savings plans;
- 3) other non-wage remuneration items, such as short-time work payments, redundancy payments, early retirement compensation or other items such as payment in lieu of accrued holiday entitlements.

On average, bonuses make up 13% of total gross remuneration, overtime 2%, employee savings 3.5% and other items 1.5% (DARES, 2021).

- **Average per capita wage:** this is measured by INSEE in the annual accounts as the total gross wage bill paid by all employers divided by the total number of employees. The wage bill includes all components of total gross remuneration (described above).¹ The change in the average per capita wage therefore reflects changes in base wages, bonuses and overtime, as well as changes in the structure of remuneration (linked to workforce entries/exits, creations/destructions of jobs, promotions, etc.).

¹ Including employer social security contributions.



1 Wage floors have reacted strongly to the inflation resurgence

In France, the NMW sets the wage below which no worker can legally be paid. On top of this, at the sectoral level, each industry negotiates its own specific wage floors each year. These define the minimum remuneration to be paid to a set of representative job categories in that industry, defined according to criteria such as qualifications, technical skill, experience and level of responsibility (see Gautier, 2017). Firms in that industry may not pay employees in each category less than the corresponding wage floor (see box). France's wage bargaining system thus consists of thousands of industry and job-specific wage floors.

The NMW is indexed to inflation

In France, wage indexation was abandoned in 1983.² It was introduced in the early 1950s to ensure that wages for all workers rose uniformly and automatically each year by at least the amount of past inflation. However, wage indexation also increased the risk of wage-price spirals as households and firms knew that higher inflation would automatically lead to future rises in pay and prices.

The NMW is the only wage still to be indexed to inflation. To protect low-paid workers, the formula used to revise it refers explicitly to past inflation. On 1 January each year, the NMW is raised automatically by the inflation rate (measured by the consumer price index excluding tobacco for households in the first income quintile), and by half of the gain in purchasing power of the blue and white-collar hourly base wage.³ In addition, if inflation subsequently rises above 2%, the NMW is automatically revised upwards the following month by the amount of this additional inflation.

Between January 2021 and January 2023, the NMW was revised upwards five times, by a total of 10%. This was equal to the cumulative amount of inflation between the two dates, thereby preserving the NMW's

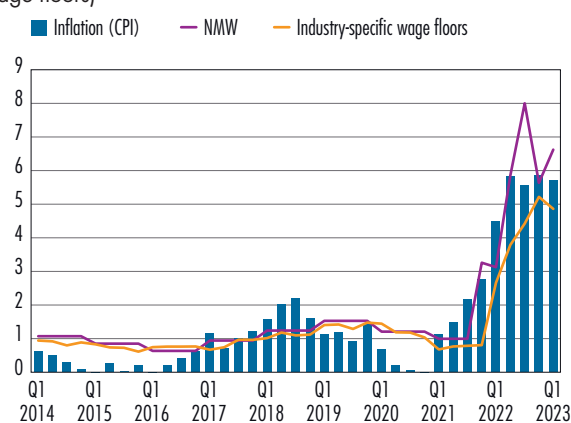
purchasing power. On 1 May 2023 the NMW was revised upwards again, this time by 2.19%.

Industry-level wage floors are strongly affected by rises in the NMW and in inflation

The sharp growth in the NMW over 2022 led many industries to revise their wage-floor agreements (see Gautier, 2023). This was because a majority of industries found that the first wage floors in their pay scale were lagging behind the NMW due to its rapid rise, forcing social partners to reopen wage talks and encouraging them to sign new agreements to bring their pay scales into line. Between the end of 2021 and end of 2022, wage floors in all industries increased by an average of just over 5% (see Chart 1). However, the rise was not uniform across all industries (see Chart 2 below), with those that failed to reopen talks over the year seeing more moderate growth of between 2.5% and 3.5%.

C1 Rise in the NMW and in industry-specific wage floors, and inflation

(year-on-year % change for the NMW and industry-specific wage floors)



Sources: Légifrance (industry-level agreements), INSEE (CPI, NMW), Banque de France calculations.

Note: CPI, Consumer Price Index.

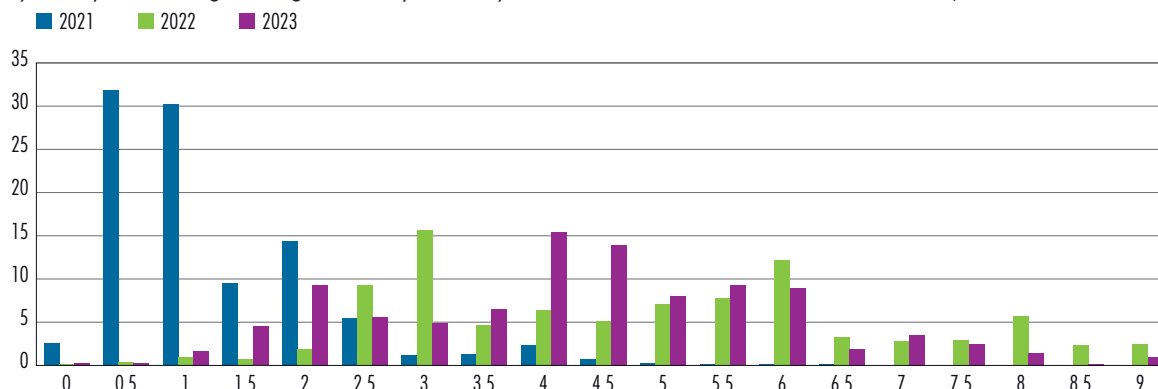
² Numerous European countries decided to abandon explicit wage indexation (except Belgium and Luxembourg where it still applies today).

³ Losses in the purchasing power of blue and white-collar base wages are not passed through to the NMW.



C2 Distribution of negotiated wage rises in industry-level agreements for the period 2021 to 2023

(x-axis: year-on-year % change in wage floors at year end; y-axis: % of total salaried workers in all industries)



Sources: Légifrance (industry-level agreements), Banque de France calculations.

Wages are one of the issues on which industries are legally obliged to hold annual discussions,⁴ and bargaining over wage floors generally takes place in the first quarter (see box). The agreements signed at the start of 2023 generally seek to close the gap between wages and inflation, especially in those industries that only revised their agreements at the start of 2022: the negotiated increases for these industries are between 4% and 5% for 2023 (see Chart 2). In those industries that already revised the agreements signed in early 2022 over the course of the year, wages have less ground to cover to catch up with the NMW, so the rises should be more moderate in 2023 than in 2022. Moreover, certain industries with large employee numbers, such as hotels, cafés and restaurants, did not sign an agreement in the first quarter of 2023, and this is helping to slow aggregate negotiated wage growth slightly compared with last year. Overall, at the start of 2023, the rise in negotiated wages should be slightly under 5%, which is high compared with the average over the previous long period (1.5% between 2006 and 2021).

Wage floors that are furthest above the NMW are rising less in line with inflation

The extent to which inflation is being taken into account varies depending on the level of the industry wage floor. Those that are closest to the NMW are seeing the steepest growth (6% year-on-year on average at the start of 2023), and are largely being supported by the dynamics of the NMW. Those wage floors that are furthest above the NMW are seeing lower growth (3% year-on-year on average at the start of 2023; see Chart 3 below). This heterogeneity is also a sign that there is no wage-price spiral, since growth rates are not uniform.

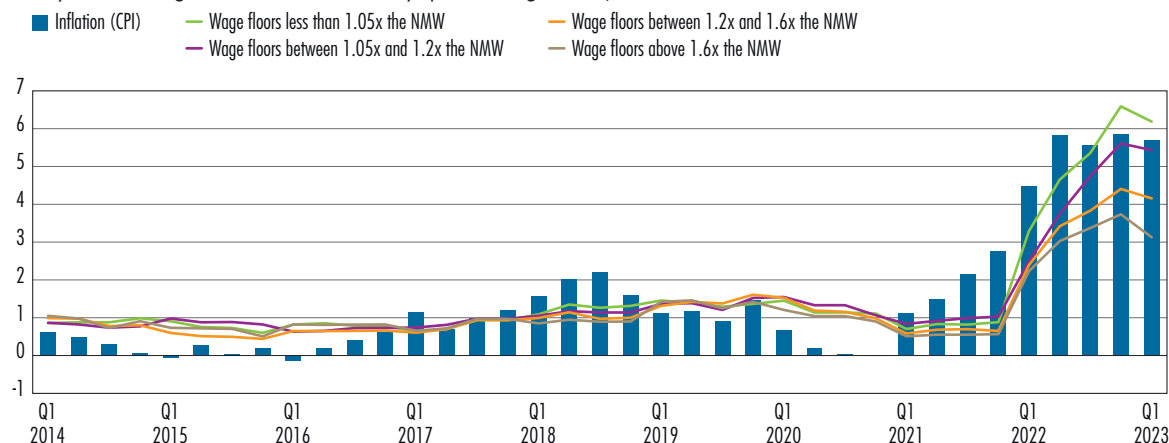
The pass-through of the NMW revisions to industry-level wage floors has also affected those wages that are higher than the NMW, as firms use industry-level wage floors as a reference point for setting all wages. Luciani (2014) shows that industry-level wage talks take precedence for 40-50% of firms with fewer than 250 employees. Moreover, increases in wage floors can also serve as a benchmark for firms in that sector during annual wage talks (see Gautier et al., 2022).

⁴ In comparison, in Germany, Spain and Italy, sectoral agreements are applicable for two to three years and are not revised before the date of expiry. The relatively high frequency of wage renegotiations in France could explain why inflation is passed through more rapidly to wages than in other countries.



C3 Rise in industry-specific wage floors according to their level relative to the NMW, and inflation

(%; year-on-year % change for NMW and industry-specific wage floors)



Sources: Légifrance (industry-level agreements), INSEE (CPI), Banque de France calculations.

Note: CPI, Consumer Price Index.

2 An increase in firm-level negotiated pay rises in 2023

The firm is the most decentralised level of collective wage bargaining. At firms with union representation, wages are subject to compulsory annual negotiations (for simplicity, the French acronym NAO for *négociations annuelles obligatoires* is used for the remainder of this document; see box for definition). Generally, NAO focus on firm-level base wages: negotiated rises can be general or individual, and differentiated according to employee category or pay level. NAO agreements also often include one-off payments, especially since the end of 2018 and the introduction of the *prime exceptionnelle de pouvoir d'achat* (PEPA – exceptional purchasing power bonus), which was replaced in July 2022 by the *prime de partage de la valeur* (PPV – value-sharing bonus). In this article, we analyse a sample of over 1,800 NAO agreements signed between the end of 2020 and start of 2023 at more than 1,000 firms covering all sectors of the French economy. As agreements are generally signed by large firms, the average firm headcount in our sample is around 700 (see Appendix 1). In total, the firm-level agreements in our sample cover just under 800,000 workers.

Firm-level NAO agreements are signed at the start of the year

Wage discussions are held according to a set timetable. The majority of agreements are signed between December and April, with a peak in March (see Chart 4). In a study of the period 1994-2005, Avouyi-Dovi et al. (2010) already highlighted the consistency of this timetable (they found that 61% of agreements were signed between December and April, with a peak of 14% in March).

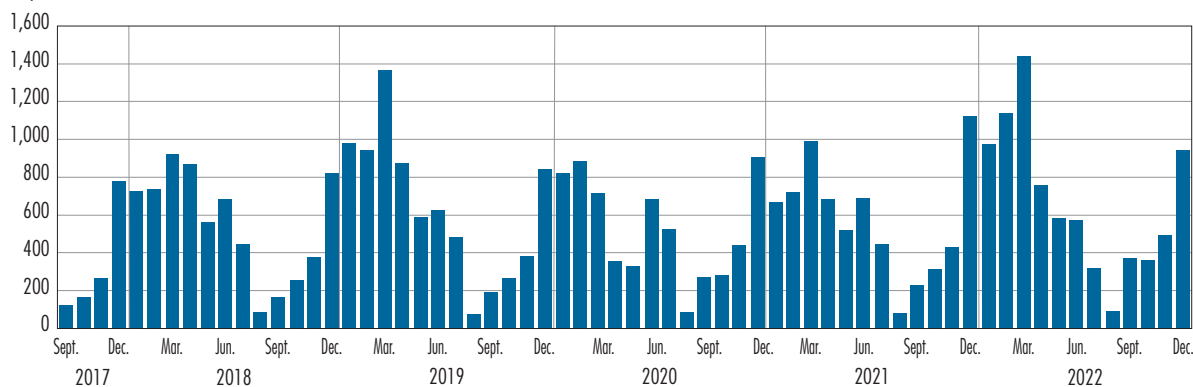
More recently, the Covid crisis disrupted this timetable slightly; however, the seasonality of the agreements signed in 2022 is similar to that observed in 2019. Despite the inflationary environment and the sharp upward revision of the NMW, the number of agreements signed in 2022 is comparable to that for 2019 (close to 8,000 agreements submitted), despite the significant rise in the final quarter of 2022.⁵ Inflation therefore appears to have had little impact on the timetable in 2022, suggesting that, unlike at industry level, few firms renegotiated their wage agreement over the course of the year to take account of the inflation resurgence. The incorporation of inflation into wage agreements therefore appears to have been partly postponed until 2023.

⁵ The number of agreements submitted in the first quarter of 2023 is still provisional.



C4 Number of firm-level agreements that mention a change in wages between 2017 and 2022

(in units)



Sources: Légifrance (firm-level agreements), Banque de France calculations.

Note: The date is the date of signature of the agreement.

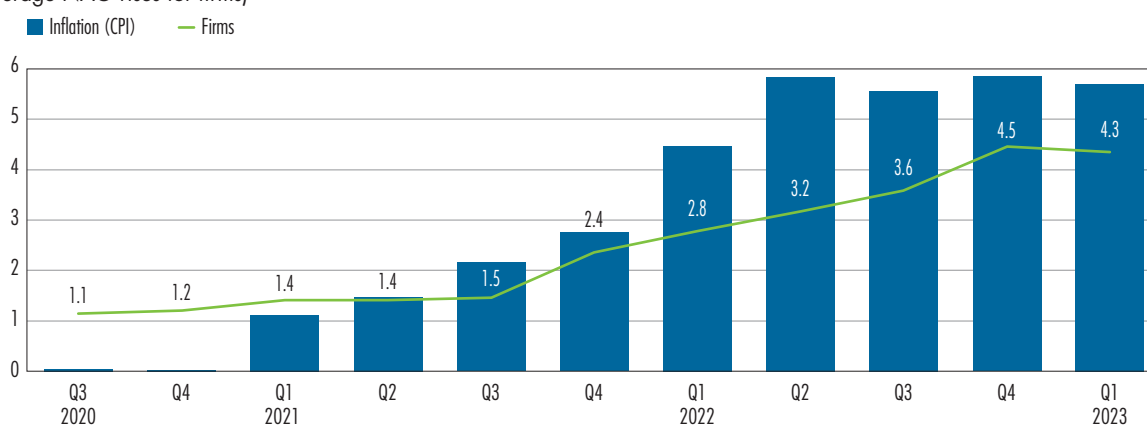
Stronger nominal wage rises in 2023

The agreements signed in firm-level NAO for 2023 provide for wage rises of 4.4% on average (median rise of 4.5%),⁶ which is below the inflation rate of close to 6% observed

at the start of 2023. However, this average negotiated pay revision for 2023 is higher than that obtained in 2022 (2.8%) and much higher than that for 2021 (1.4%). Chart 5 shows the change in the average quarterly pay rise and the steady acceleration since end-2021.

C5 Average wage rise in firm-level agreements according to quarter in which they were signed

(%; average NAO rises for firms)



Sources: Légifrance (firm-level agreements), INSEE (CPI), Banque de France calculations.

Note: CPI, Consumer Price Index. NAO, *négociations annuelles obligatoires* (compulsory annual negotiations).

The rise is measured relative to the last firm-level agreement (usually signed a year earlier).

⁶ These statistics are unweighted. Weighted by headcount, the average is 4.6% for 2023, 3.0% for 2022 and 1.4% for 2021.



More marked sectoral disparities

In 2023, negotiated pay rises vary more than usual across firms. Nearly 20% of agreements stipulate a rise of around 5%, but 40% provide for a rise of less than 4%. In comparison, for 2022, the majority of the rises agreed between the end of 2021 and start of 2022 were between 2.5% and 3%, while for 2021 they were between 1% and 1.5% (see Chart 6).

The differences between sectors are significantly larger in 2023 than in 2022 or 2021. Pay rises are on average higher in manufacturing and construction than in services (0.4 percentage point and 1 percentage point higher respectively, on average). There are also disparities within the manufacturing and services sectors. For example, pay rises are particularly high in transport services and in the manufacture of IT products and electrical equipment, where they average 5%. In contrast, in wholesale and retail trade and in real estate, the rises are slightly under 4% on average. Pay rises are also more marked at very large corporations for 2022 and 2023: all other things being equal, they are 0.3 percentage

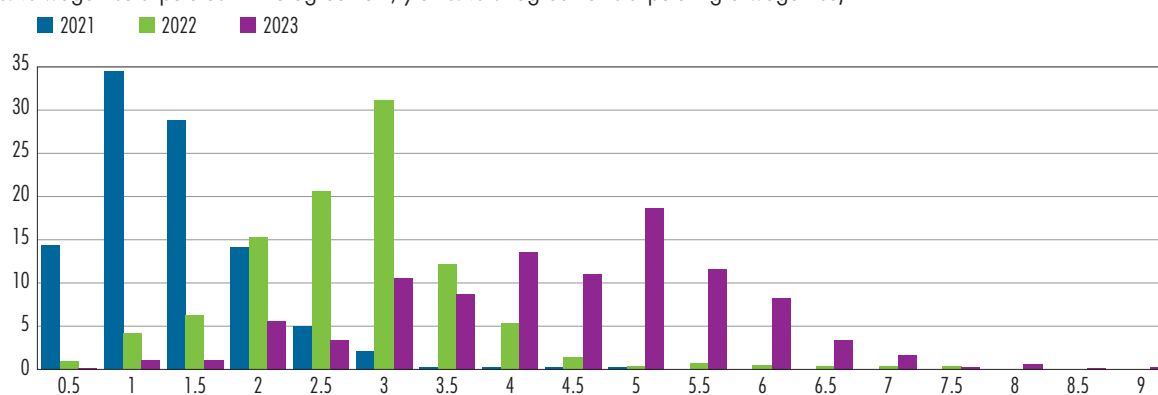
point higher at firms with over 1,000 employees (see Appendix 2, Table A).

There is also a link between the pay rises negotiated by firms and the recruitment difficulties reported within sectors in the Banque de France's Monthly Business Survey. Firms in sectors experiencing strong recruitment difficulties have granted pay increases that are 0.4 percentage point higher than those in sectors with relatively mild recruitment difficulties (see also Himpens and Zuber, 2023). There is also a correlation between the pay rises granted in firm-level agreements and the rises in industry-level wage floors: a rise of more than 5% in an industry wage floor increases the firm-level wage rise agreement by around 0.2 percentage point (see Appendix 2, Table B).

Firms that granted above-average pay rises in 2022 are also proving more generous than average in 2023, widening the cumulative wage rise gaps observed between firms since the resurgence in inflation.⁷ As a result, some firms have granted base wage rises that largely offset inflation, while others have given smaller pay rises.

C6 Distribution of negotiated rises in firm-level agreements for the period 2021 to 2023

(x-axis: % wage rise stipulated in the agreement; y-axis: % of agreements stipulating a wage rise)



Sources: Légifrance (firm-level agreements), Banque de France calculations.

Note: For 2023, the agreements taken into account are those signed between September 2022 and the start of March 2023.

⁷ This correlation is weaker between 2021 and 2022 (see Appendix 2, Chart A).



Differences in wage rises depending on employee category

Half of the NAO agreements grant different pay rises depending on employee category (e.g. *cadres* or *non-cadres*⁸) or pay level.

In around half of these differentiated agreements, it is the split of the overall pay rise budget between general increases and individual increases that differs according to employee category, and not the overall rise in pay. For example, in all of these agreements combined, individual pay rises account, on average, for a third of the total firm-level wage increase. However, for *cadres*, individual rises account, on average, for 75% of the negotiated collective pay rise, whereas for *non-cadres*, the share is much smaller at around 25%.

The other half of the differentiated agreements (i.e. a quarter of all 2023 agreements analysed) contain pay rises that vary according to employee category or pay level. In general, these agreements stipulate that low-paid workers will have bigger wage rises. So for the lower paid, the average rise in these

agreements is 4.9%, compared with 3.6% for those on higher pay.⁹

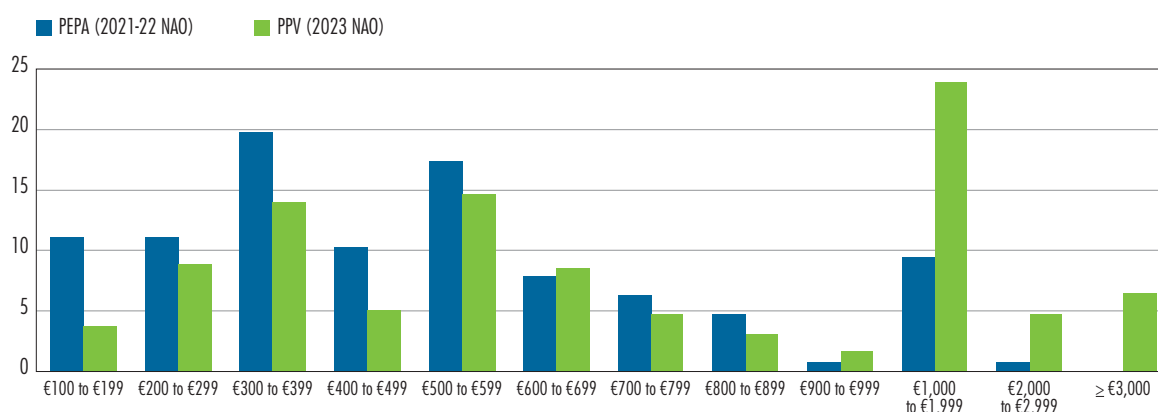
The PPV will give an additional boost to total remuneration in 2023

The 2023 NAO agreements also frequently include the payment of a PPV. Introduced on 1 July 2022, the PPV scheme allows firms to pay staff an annual bonus which is exempt from employer and employee social security contributions up to EUR 3,000 (EUR 6,000 if it is a profit-sharing scheme). A third of the NAO agreements signed at the end of 2022 and start of 2023 include such a bonus (in comparison, just over 10% of the agreements signed at the end of 2021 and start of 2022 included a PEPA).¹⁰ The majority of agreements signed at the end of 2022 and start of 2023 stipulate that the payment will be made between January and July 2023.

The average size of the bonus is just under EUR 900 (equivalent to EUR 75 per month), and the median size is EUR 600 (EUR 50 per month),¹¹ while a third of firms have granted a PPV of EUR 1,000 or above, and a quarter of less than EUR 400 (see Chart 7).¹²

C7 Distribution of bonus amounts (PEPA and PPV) stipulated in firm-level NAO agreements for the period 2021 to 2023

(%)



Sources: Légifrance (firm-level agreements), Banque de France calculations.

Note: NAO, *négociations annuelles obligatoires* (compulsory annual negotiations). The PEPA (*prime exceptionnelle de pouvoir d'achat* or exceptional purchasing power bonus) was replaced with the PPV (*prime de partage de la valeur* or value-sharing bonus) in July 2022.

8 The employment category "*cadres*" is specific to French labour law and includes managers as well as various other types of employee such as salespeople, engineers, marketing and communications specialists, etc.

9 The definition of the relative level of remuneration here is specific to each firm.

10 One limitation of the data on PPVs is that bonuses can be covered under a separate agreement, which would lead to an underestimation of the share of firms granting both a pay rise and a PPV.

11 Weighted by headcount, the average is EUR 800.

12 URSSAF gives similar size estimates for the PPVs paid at the end of 2022 by all firms combined (see Appendix 2, Chart B).



By way of comparison, the average amount of the PEPA bonuses included in the NAO agreements at the end of 2021 and start of 2022 was EUR 500. The size of the PPV bonuses as a percentage of total employee remuneration depends on the wage levels applied at firms paying the bonus. To give an approximate idea, we use the 2021 average net wage of around EUR 2,500 (see Sanchez-Gonzalez and Sokhna, 2023) as a reference: a bonus of EUR 900 for the year represents around 3% of this average wage, and a bonus of EUR 600 is equivalent to 2%. This suggests that, in addition to the rises in base wages, the increase in the number of firms paying the PPV will provide an additional boost to total remuneration in 2023.¹³

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* *

The surge in inflation is gradually being passed through to wages at the different levels of wage bargaining or setting. According to the Ministry of Labour, the monthly base wage (i.e. wages excluding bonuses and overtime, see box) was up 3.9% year-on-year at the end of 2022 compared with a rise of 1.7% at end-2021. The strongest rises have been in blue and white-collar base wages (4.7% and 4.4% growth respectively), thanks to the upward revisions to the NMW and industry-level wage floors, while *cadres* have seen smaller average pay rises (3%). Similarly, the sectors that saw the biggest rise in base wages in 2022 are those where a high proportion of wages are close to the NMW. In wearing apparel and footwear, retail trade and cleaning services, base wages

rose by over 5% between the end of 2021 and end of 2022. In contrast, in the pharmaceuticals industry, real estate activities and information and communication, pay rises were around 3%.

For employees earning more than the NMW, the pass-through of inflation is proving slower, but could accelerate over 2023 thanks to the industry-level agreements signed at the start of the year in certain sectors, and the agreements negotiated at firm level. The rises stipulated in these agreements, of close to 4.5% on average, should support growth in base wages. However, the rises negotiated at firm level are still below past inflation, which at this stage means there is no risk of a wage-price spiral.

The payment of the PPV will provide an additional boost to growth in total remuneration (see box). These bonuses provide a one-off boost to employee purchasing power, without fuelling a wage-price spiral over the longer term. For 2023, a larger share of firm-level NAO agreements include a PPV, and the amount paid is also higher than in 2022. The Banque de France therefore expects the average per capita wage (including bonuses, overtime and compositional effects), which is the broadest measure of remuneration, to increase by 6% in annual average terms in 2023 in the market sector, representing a purchasing power gain of 0.3%. The nominal rise in the average per capita wage is then forecast to slow, but more gradually than inflation, which should generate further purchasing power gains in 2024 and 2025.

¹³ However, the firms who included a PPV in their NAO agreement also granted a slightly lower pay rise than those that did not include a PPV (around 0.3 percentage point lower, all other things being equal).



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Appendix 1

Data on industry and firm-level NAO agreements

Once signed, industry and firm-level agreements are made public on the Légifrance website.¹

The Banque de France then uses **the industry-level agreements** to compile an aggregated series showing the trajectory of industry-specific wages. The methodology is based on an analysis of more than 350 industries, and on the wage floor scales negotiated in annual industry-level agreements (see Fougère et al., 2018 and Banque de France²).

Regarding **firm-level agreements**, for the first time we compiled a unique sample of more than 1,800 wage agreements signed between the end of 2020 and mid-March 2023 (of which more than 850 were signed between the fourth quarter of 2022 and mid-March 2023), covering some 1,300 firms.

By closely analysing the agreements submitted by each firm, we collected the following information:

- The identity of the firm that submitted the agreement, its sector (NAF code³) and its collective bargaining agreement (industry identifier and IDCC code⁴).
- The date of signature of the agreement, its date or dates of effect.
- The proportion of the budget (in per cent) allotted to general wage increases.
- The proportion (in per cent) allotted to individual pay rises. The distribution of these individual pay rises is then determined at a more local level, usually via individual staff appraisals, or the agreement may contain more general indications on how the budget should be split

between staff. The individual pay rise budget usually excludes increases based on seniority, promotions, etc.

- Whether or not the agreement includes a *prime de partage de la valeur* (PPV – value-sharing bonus), or its predecessor, the *prime exceptionnelle de pouvoir d'achat* (PEPA – exceptional purchasing power bonus) and, if so, its amount in euro. Of the agreements signed following compulsory annual negotiations (NAO hereafter for *négociations annuelles obligatoires*) between the end of 2022 and start of 2023, just under 300 included a PPV, whereas some 130 of the NAO agreements signed in 2020, 2021 and at the start of 2022 contained a PEPA bonus.

An agreement can contain a general wage increase, or a split between a general increase and individual increases that differ according to employee category (e.g. *cadres* or *non-cadres*) or wage level (firm-level wage brackets). We extracted information from the database on all employee categories whose definition is specific to individual agreements or firms.

General or individual pay rises nearly always refer to the base wage for the firms' employees (i.e. excluding bonuses). Where wage increases in the agreements were given in euro rather than as a percentage, this information was excluded as it could not be compared with agreements given as a percentage (unless details were available on the firm's average wage).

For each employee category covered by an agreement, we first calculated the negotiated pay rise as the percentage budget allotted to general rises and the percentage budget allotted to individual rises. Then, to determine the average negotiated rise granted in the

¹ <https://www.legifrance.gouv.fr>

² <https://www.banque-france.fr>

³ *Nomenclature d'activité française* (French classification of activities).

⁴ Identifier given to collective bargaining agreements.



agreement signed by a given firm, we calculated the average rise for each category of employees concerned.

On average, the sample of firms signing an agreement have a higher headcount than the average for the French economy as wage agreements are primarily signed by larger firms: Avouyi-Dovi et al. (2010) note that less than 5% of staff at firms with under 100 employees are covered by a firm-level wage agreement in any given

year, compared with 40% of staff at firms with over 500 employees.

The firms in our sample have an above-average headcount – the median in the headcount distribution is just over 300 employees and the average is 700. The sample covers all economic sectors: manufacturing (55%), construction (7%), services (38%). In total, our 2022-23 sample of firms covers nearly 800,000 employees and 1,300 firms.



Appendix 2

Determinants of negotiated wage rises in firm-level agreements

To measure the impact of observable firm or sector characteristics on the pay rises granted in firm-level bargaining agreements, we use an ordinary least squares regression linking the rise included in each agreement with a number of the observable characteristics belonging to the corresponding firm: its main sector of activity (manufacturing, construction or services), its size bracket (headcount), the period in which the agreement was signed, the rise in industry-level wage floors applicable to

the firm (source: Banque de France) and the percentage of firms reporting recruitment difficulties (source: Banque de France Monthly Business Survey). These estimations give a reading on the effect of each variable, all other things being equal. The variables are included in qualitative form, so the results should be interpreted in comparison to a reference (Ref.). In 2023, for example, the wage rise in the manufacturing industry was on average 0.4 percentage point higher than the rise in services.

TA Determinants of the rises granted in firm-level agreements

Explained variable:		Rise negotiated in the agreement (%)			
Period of the agreement:		2021-2023	2021	2022	2023
Sector	Services	Ref.	Ref.	Ref.	Ref.
	Construction	0.76*** (0.11)	-0.12 (0.20)	0.68*** (0.19)	0.99*** (0.14)
	Manufacturing	0.33*** (0.06)	0.13* (0.08)	0.34*** (0.09)	0.40*** (0.10)
Headcount	Under 300 employees	Ref.	Ref.	Ref.	Ref.
	Between 300 and 500 employees	-0.06 (0.07)	0.09 (0.09)	-0.03 (0.11)	-0.18 (0.14)
	Between 500 and 1,000 employees	0.11 (0.08)	0.07 (0.09)	0.12 (0.12)	0.18 (0.15)
	Over 1,000 employees	0.21*** (0.08)	0.01 (0.09)	0.32** (0.13)	0.27** (0.14)
Period when agreement was signed	Sept. 2022 – February 2023	Ref.			
	Sept. 2021 – August 2022	-1.73*** (0.06)			
	Sept. 2020 – August 2021	-3.12*** (0.06)			
Constant		4.18*** (0.07)	1.23*** (0.07)	2.42*** (0.10)	4.13*** (0.09)
Number of observations		1,811	375	557	879

Source: Authors' calculations using data from firm-level wage agreements.

Note: The table shows the results of the OLS (ordinary least squares) regressions.

Each column corresponds to a regression analysing the determinants of the negotiated rises for the year to which the wage agreement applies. The figures in brackets are the standard deviations of the estimated parameters.

* The parameter is statistically significant at 10%.

** The parameter is statistically significant at 5%.

*** The parameter is statistically significant at 1%.

No asterisk means the parameter is not statistically different from zero.



TB Role of sectoral characteristics in determining the rises granted in firm-level agreements

Explained variable:	Negotiated rise (%)		
	(1)	(2)	(3)
Rise in industry-level wage floors	Between 0% and 1%	Ref.	Ref.
	Between 1% and 3%	0.04 (0.07)	0.09 (0.09)
	Between 3% and 5%	0.20** (0.08)	0.16* (0.09)
	Over 5%	0.25** (0.11)	0.21 (0.13)
Recruitment difficulties in the sector	Very low	Ref.	Ref.
	Low	0.12 (0.09)	0.14 (0.09)
	Medium	0.22** (0.09)	0.23** (0.10)
	High	0.35*** (0.12)	0.38*** (0.13)
Constant	4.27*** (0.08)	4.40*** (0.08)	4.25*** (0.11)
Number of observations	1,639	1,130	1,066

Sources: Authors' calculations using data on firm-level wage agreements, the Banque de France Monthly Business Survey for recruitment difficulties and industry-level agreements.

Note: The table shows the results of the three OLS (ordinary least squares) regressions. Each column corresponds to a regression where the explanatory variables "rise in industry-level wage floors" and "recruitment difficulties in the sector" are considered separately (columns (1) and (2)) then together (3)). The figures in brackets are the standard deviations of the estimated parameters. A variable for the year of the agreement (2021-2022-2023) was also added as a control, and the results for this variable are not reported in the table. The variable "recruitment difficulties" measures the percentage of firms in the sector reporting recruitment difficulties: "very low" corresponds to under a third of firms in the sector, "low" to between a third and 45%, "medium" to between 45% and 60% and "high" to over 60%. The variable "rise in industry-level wage floors" is the year-on-year change in the industry-level wage floors applicable to the firm signing the wage agreement at the date of signature.

* The parameter is statistically significant at 10%.

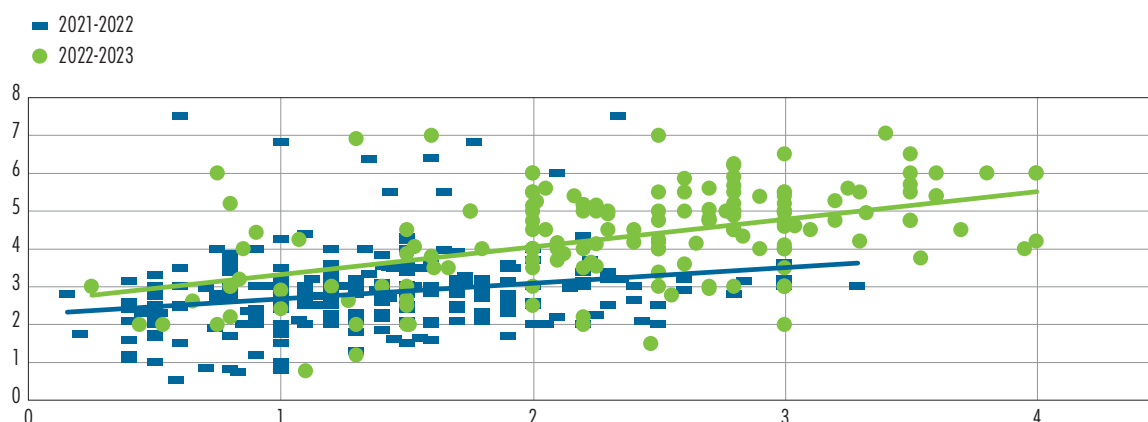
** The parameter is statistically significant at 5%.

*** The parameter is statistically significant at 1%.

No asterisk means the parameter is not statistically different from zero.

CA Comparison of negotiated rises at firms that signed several NAO agreements between 2021 and 2023

(%)



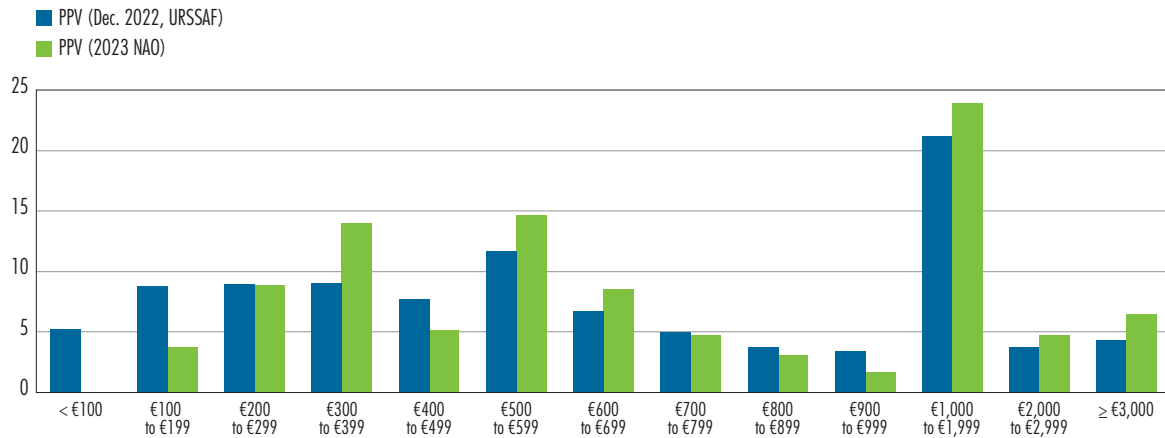
Source: Authors' calculations using data from firm-level wage agreements.

Note: Each data point in the chart is a firm for which we observed a wage agreement in more than one year between 2021 and 2023. The green circles show the rises (in %) negotiated in 2022 (x-axis) and 2023 (y-axis) while the blue rectangles show the rises negotiated in 2021 (x-axis) and 2022 (y-axis). The straight lines are the ordinary least squares regression lines linking the different points, and their gradient represents the intensity of the correlation between the rises granted in year A-1 and the rises granted in year A.



CB Distribution of PPV amounts paid in 2022 and 2023: comparison of data from the NAO sample and URSSAF data

(%)



Sources: URSSAF, Légifrance, Banque de France calculations.

Note: NAO, *négociations annuelles obligatoires* (compulsory annual negotiations).

Data from URSSAF (*Union de recouvrement des cotisations de Sécurité sociale et d'allocations familiales*, or the French office for the collection of social security and family benefit contributions) covers all private sector firms that paid a PPV between July and end-December 2022.

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