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Designing Housing Benefits: An Application with French Data

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*Housing policy is a vital part of French social policy. The Government earmarks an annual amount of almost €41 billion (1.9% of GDP) for housing, €18 billion of which is spent on individual housing benefits. The purpose of these benefits is to directly subsidise spending on housing by the poorest households and they are now pivotal to the housing policy. In recent years however, these benefits have been subjected to a certain amount of criticism. On one hand, they contribute to higher rents with owners appropriating a significant proportion of the amounts paid out (between 70% and 100%). On the other, their poor coordination with other social benefits, in particular, the social inclusion benefit (*Revenu de solidarité active – *RSA) and the earned income tax credit (*Prime pour l'emploi – *PPE), strongly reduces back-to-work incentives for low-income households. Returning to the employment market means not only losing part of housing benefits but also less RSA and PPE. As an example, an additional €100 of wages causes a loss of €73 in benefits, giving ultimate disposable income of a mere €27.*

Although housing benefits are, at least in theory, contingent on renting accommodation, as they currently stand, they function in a similar manner to the RSA and PPE. This means that they are more like a support measure for the poorest households. We advocate combining these three benefits into a single one for low-income households. While respecting the budgetary constraints of the current system, and by striving to mitigate wide-reaching redistributive effects, we set out the scale for this new benefit and simulate its redistributive effects using the French tax and benefit microsimulation model, TAXIPP. All persons aged over 18 would be entitled to this new benefit, except for students and over-64 year olds. Housing benefits would not be axed for these groups but reallocated to fund student housing and the minimum old-age pension. The basic amount of this benefit would provide a minimum of €624 per month to a single person with no earned income. Additional amounts per zone, equivalent to current additional amounts, would be added to this basic amount. There would also be additional amounts to factor in the household's composition. With this scale, the proportion of income that could be combined with the new benefit would be 68%. In other words, for an additional €100 of earned income, the amount of the benefit would be cut by around €32, meaning that total net

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income would increase by €68. The redistributive effects of this reform are relatively moderate with a net gain for households in the first four income deciles and a loss of less than 1% of disposable income for the other income deciles.

The combination of three social benefits being put forward here represents the first step towards better integration of our tax and benefit system and would lead, for a limited cost, to the renewed effectiveness of assistance to those on low income and while making work pay more.

A short introduction to French housing policy

Housing policy is a vital part of French social policy. The Government earmarks an annual amount of almost €41 billion (1.9% of GDP) to it in the form of support for the construction of housing in the social and private sectors (€6 billion), tax measures to promote housing construction and renovation (€15 billion), and housing benefits, which account for around €20 billion. Housing benefits, currently the preferred housing policy instrument, aim to provide direct subsidies to low-income households to help them pay their rent and also to favour access to decent housing. Around six million households receive a housing allowance in France, which represents one fifth of the population.

Initially introduced in 1948, housing benefits were largely expanded at the end of the seventies to overcome the limitations of the then-dominant housing policy, namely the large-scale construction of social housing. One of the major shortcomings of this policy is that government subsidies are attached to a good (here housing) rather than being directly allocated to households. It may limit individuals' mobility because moving out of subsidised housing means going to the private rental sector where prices are higher. It also contributes to concentrating poverty in areas with social housing and it provides a substantial benefit to households that are no longer in a precarious situation. Housing benefits are therefore seen as a more flexible tool compared to social housing, and are better suited to help low-income households without discouraging geographic mobility.

The architecture of the French housing benefits system is a very complex one. First of all, housing benefits differ depending on the type of housing and the composition of the household. There are three kinds of housing benefits in France: the family housing allowance (ALF - *allocation de logement familiale*), which is financed by the Fonds national des prestations familiales de la Sécurité sociale; the social housing allowance (ALS - *allocation de logement sociale*) and the individual housing allowance (APL - *allocation personnalisée au logement*), both of which are financed through the *Fonds national d'aide au logement*. The oldest housing benefit is the ALF, which was introduced in 1948 to help families cope with the rise in housing prices after World War II. Today, only families with children or family dependants who are not eligible for the APL can benefit from the ALF. The ALS, created in 1971, initially aimed at supporting elderly or disabled people, as well as young workers under 25 . It was however extended in 1991 to include those not entitled to the APL or to the ALF. The APL concerns only tenants of housing that complies with certain standards[1], as well as first-time home-buyers if they benefit from a subsidised loan such as *prêts conventionnés* or *prêts d'accession sociale.*

The formula to calculate the amount of the benefit depends on a large number of parameters interacting with each other. This also contributes to the complexity of the entire housing benefit system. This means that the link between benefits and a household's income and rent is much less straightforward[2]. The full formula is set out in appendix A.1. Basically, housing benefits are a positive function of the composition of the household, a positive function of the rent under a certain rent ceiling[3], and a negative function of the household's income which includes, since 2016, the household's estate and assets. Moreover, the geographical area in which the housing is located is also taken into account. France is divided into three zones based on local housing prices. Areas where rents are the highest benefit from a higher allowance.

The effectiveness of housing benefits called into question

However, several empirical studies question the effectiveness of the French housing benefits system. Two major criticisms have been levelled at the system: the first one is that they have contributed to an increase in rental prices, resulting in owners appropriating a significant proportion of the benefits; the second one is that their poor coordination with other social policies creates a disincentive to return to paid work among households with the lowest incomes.

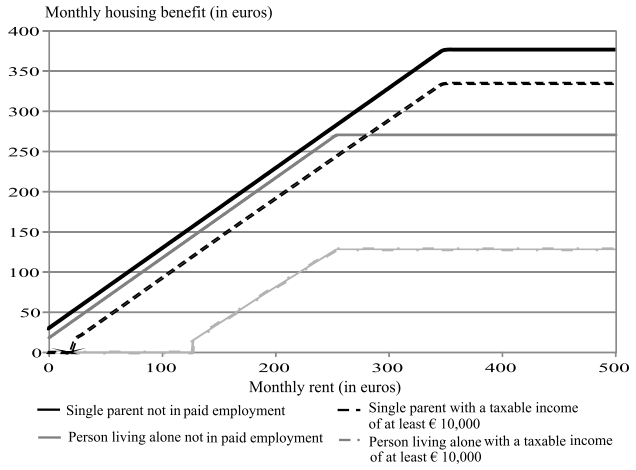
The inflationary effect of housing benefits

Using different methodologies, data and periods, several empirical studies show that a significant proportion of housing benefits (between 70% and 100%) is appropriated by owners in the form of higher rents in France (Fack, 2006; Laferrere and Le Blanc, 2002; Grislain-Letremy and Trevien, 2014). This effect has also been documented in other European countries. In the United Kingdom, Brewer *et alii* (2014) showed that the recent reform of housing benefits, which involved a reduction of their amount, caused a significant decrease in rents in the suburbs of London and in the East Midlands. In Finland, Kangasharju (2010) found that a one euro increase in housing benefit for the poorest households translated into a 60% to 70% rise in rents in the private sector.

In the French context, this inflationary effect is first explained by the design of housing benefits, which were initially conceived as a subsidy proportional to the rent. Below a certain ceiling, the owner can increase the rent without extra cost to his tenants: a one euro increase in the rent entails an extra one euro in subsidies (see figure 1). As a result, tenants have no incentive to choose housing with rent below the

rental ceiling: they can have better housing without spending more. The owners have no incentive to offer rents below the ceiling: they can increase the rent without losing potential tenants or without reducing their solvency. Such a design causes rental inflation, particularly when – as in France – housing supply is too weak to absorb the increased demand (Caldera Sánchez and Johansson, 2011). The effect of housing benefits, *i.e.* the impact of the benefit on supply and demand and its consequences for market equilibrium, is crucial because it limits the redistributive objective of this social policy. The actual beneficiaries of the policy are not necessarily those targeted: the more inelastic housing supply is, the more the benefit is likely to be appropriated by owners.

Figure 1: Monthly housing benefits as a function of rent for different household categories in 2013



N.B.: The different curves indicate total monthly housing benefits as a function of rent for different categories of households living in zone 2 with the 2013 benefits scale.

Source: TAXIPP 0.4.

The strongly inflationary nature of housing benefits in France cannot, however, be entirely explained by the mechanical link between the amount received and the rent. Only 13% of households pay rent below the rental ceiling. This proportion is too low to explain the extent of the phenomenon measured by empirical studies. Three other explanations can be put forward: housing market segregation, the third-party payment system, and a housing benefits labelling effect (Fack, 2007 ; Trannoy and Wasmer, 2013)[(4)].

Regarding the housing market segregation argument, it will be easier for owners to appropriate housing benefits when certain groups can easily be identified as potential recipients. For instance, this effect was evident when students became eligible for housing benefits in the early nineties: rents increased on the market for studio apartments and small flats on which students demand is concentrated (Fack, 2005). The second argument relates to the literature on the salience of taxes and benefits. Economic agents are more responsive to an increase in benefits when this change is visible to them (Chetty *et alii*, 2009; Finkelstein, 2009). The third-party payment system allows owners to directly receive the housing benefits allocated to their tenants. This system can therefore be seen as a mechanism giving a certain amount of visibility to owners. The latter have all the information required to adjust the rental price in relation to the amount of benefits received. Lastly, studies on the labelling effect of social benefits suggest that naming a cash transfer with a direct reference to the subsidised good, such as housing benefits, encourages households to consume more of the targeted good, while they could have spent the money differently, given that housing benefits are a cash transfer (Abeler and Marklein, 2008; Beatty *et alii*, 2014).

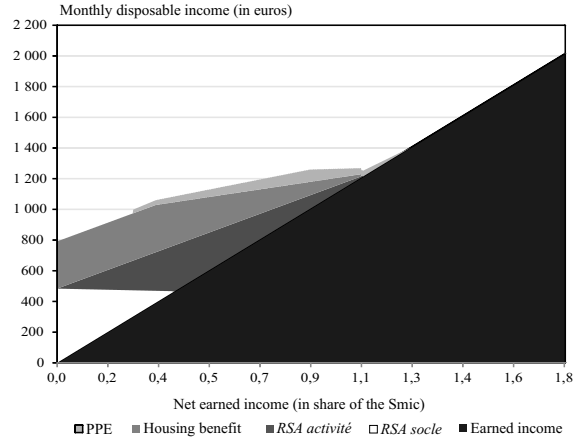
Poor coordination with other social benefits penalising a return to work

Besides having an inflationary effect on rents, housing benefits are poorly articulated with other social benefits, in particular with the social inclusion benefit (RSA) and the earned income tax credit (PPE). The first is managed by the *Caisse d'allocations familiales* (CAF), like housing benefits, whereas the second is managed by the tax administration.

The RSA can actually be divided into two separate benefits: a basic social inclusion benefit (RSA *socle*) and an in-work income supplement (RSA *activité*). The RSA *socle* aims to provide the poorest households with monthly minimum income of €535[(5)]. The RSA *activité* aims to encourage people to resume or start a paid activity by allowing them to combine the RSA *socle* with a proportion of their earned income (precisely 62%). Only individuals aged over 25 are eligible for the RSA (*socle* and *activité*) if their income is less than a given threshold. Students are not eligible, however. The PPE is a tax credit reserved for low-income workers and decreases as income rises. Unlike the RSA, there is no age condition attached to this tax credit.

Housing benefits, the PPE and the RSA *activité* clearly share a common objective (*i.e.* supporting low-income workers), but the complex interaction between the different schemes strongly discourages a return to paid work for the lowest-income households. The lack of coordination between the different kinds of benefits leads to a double penalty when an individual starts paid work: he/she receives both less RSA and less housing benefits. For instance, a €100 increase in wages only results in a €27 increase in disposable income, because benefits decrease abruptly as income rises. Housing benefits therefore hamper the initial objective of the RSA *activité* as households cannot, in practice, add up to 62% of their earned income to the benefit (Bourgeois and Tavan, 2009) (See figure 2)[(6)].

Figure 2: Contribution of housing benefits, the RSA and the PPE to net disposable income as a function of earned income - Single person living in zone 2



N.B.: This standard case represents the amount of the RSA, PPE, and housing benefits received as a function of income, expressed as a share of the minimum wage (Smic), for a person living in zone 2.

Source: TAXIPP 0.4.

In light of the foregoing, this paper proposes a reform aimed at restoring the effectiveness of housing benefits in France. As changes to housing benefits have brought them closer to other social benefits in terms of their objectives, we propose merging housing benefits with the RSA and the PPE into a single benefit for low-income households. Using a microsimulation model and French administrative data, we have come up with a reform respecting a constant budget constraint and limiting both horizontal and vertical redistributive effects. The paper is organised as follows: after this short introduction to French housing policy, the second section describes the TAXIPP microsimulation model and the data used to design the reform. The third section details the reform scenario, while the the fourth one presents its redistributive impact. The last section concludes.

The TAXIPP microsimulation model and the data

In this section, we present the TAXIPP 0.4 microsimulation model that we use to design the reform and to study its redistributive effects (first subsection). This model, which was developed at the *Institut des Politiques Publiques* (IPP), is presented in detail in Bozio *et alii* (2014). We then present the data used for this study (second subsection).

The TAXIPP microsimulation model

The aim of a tax-benefit microsimulation model is to simulate the entire tax and benefit system of a country. TAXIPP is a standard static microsimulation model: it involves simulating the legislation governing the tax and benefit system on a sample of data representative of French households.

The model is made up of several modules for each part of the legislation: a module for "social security contributions", a module for "social benefits", a module for "income taxation", a module for "capital taxation" and one for "indirect taxation". For each dimension of the French tax and benefit system, the legislation is accurately reproduced by following legal texts insofar as possible. Legal references used in TAXIPP are available in the *Barèmes de l'IPP*, which centralise all the parameters of the legislation as well as the legal references for each year since 1970[(7)].

First, it is important to underline the limitations of the TAXIPP model. Although most taxes and transfers can be simulated, some aspects of the legislation are not correctly taken into account because of a lack of data. For instance, this is the case of transfers for disabled people, which cannot be simulated. This however has no consequence for the present study on housing benefits.

Issues surrounding the take-up rate for some social benefits are also a great concern. If we model the tax and benefit system and apply the legislation to a representative sample, it is very likely that the amount of taxes and transfers will be over-estimated because the take-up rate is not 100% in reality. For instance, concerning the RSA, we estimate that only 50% of the eligible population take it up.

A special module has been developed in the TAXIPP model to take this fact into account. A take-up rate reconciling the results of the simulation with the aggregate amount actually spent is automatically generated. Nonetheless, this module is not a behavioural module able to explain the determinants of the take-up rate. A change in the legislation, such as the one we propose in the section on the reform, is likely to affect the take-up rate, and involves making assumptions about how it is going to be affected.

Data

The data used for this study comes from the 2011 French Survey on Social and Tax Revenue (ERFS FPR), the 2006 French Housing Survey, and the 2013 National Sample of the Recipients of the Social Welfare Family Allowance (ENA CNAF). Using a matching procedure, we build a single database containing all the necessary information for our study on housing benefits.

The first step involved building a database for 2013 containing information on individuals, their resources and their family situation. This information is available in the ERFS survey. This database is produced by the French National Institute of Statistics and Economic Studies (Insee). It is built using the Labour Survey matched with administrative data. We used the 2011 version of the survey, the latest available ERFS survey, which provides information for each household concerning

the different types of income earned and transfers received for that year. As housing benefits depend on resources for the two years preceding the benefit claim, we use the income distribution provided by the ERFS to calculate housing benefits for 2013.

The ERFS survey does not contain a reliable estimate of the rents paid by households. We overcame this limitation by using the 2006 Housing Survey to impute a rent to households. Since the 2013 Housing Survey was not available when we started the project in 2014, and was only released a year after, we extrapolated Housing Survey figures from 2006 to 2013 to obtain rent and earned income for which the aggregate amount corresponds to that observed in 2013 in the National Accounts. We believe that using the 2006 Housing Survey instead of the most recent edition should not dramatically affect our simulations as it is only used to impute rents. If anything, the distribution of rent throughout the population might be slightly less accurate than the figure we would have obtained using the 2013 Housing Survey. We then performed a statistical match between the 2011 ERFS and the 2006 Housing Survey, both corresponding to the year 2013. The database obtained after the statistical matching procedure was finally calibrated using the aggregates available in the 2013 National Sample of the Recipients of the Social Welfare Family Allowance (ENA CNAF).

This database was then used to simulate the French social benefit system as it stood in 2013. For each observation in our database, we simulated the amount of RSA, PPE and housing benefit received given their characteristics. We were then able to identify the recipients and break them down by benefit[8].

However, simulating minimum social benefits, such as the RSA, raises some methodological issues. First of all, the nature of the data available means that TAXIPP does not have a subannual dimension. The model cannot reproduce a change in family circumstances occurring during a given year, nor changes in households' resources. The consequence is an underestimation of the flow of recipients of the RSA. Additionally, the aggregate amount of the RSA simulated by TAXIPP is lower than the actual amounts spent by public authorities, even if we assume a 100% take-up rate. This is explained by the fact that a proportion of RSA recipients is poorly represented in the ERFS, or is simply not within the scope of ordinary households covered by the survey (Lalane, 2011). People living in collective structures such as retirement homes, religious communities, etc., as well as people in the most precarious situations, such as homeless people, are excluded from the scope of the survey. However, these people are precisely the ones targeted by minimum social benefits (Insee, 2012). Therefore, the estimated number of recipients is lower than the official figures: 1.7 million against 2.3 million.

Reforming housing benefits – Description of the scenario

As we mentioned in the first section, even if in theory housing benefits are a function of the rent paid by recipients under a certain ceiling, this is in practice almost no longer the case. Indeed, only 13% of households paid rent under the rent ceiling in 2013. As a result, housing benefits have become more similar to other social benefits for low-income households, such as the RSA and the PPE. The reform scenario presented in this section aims at merging housing benefits, the RSA and the PPE into a single benefit depending only on the structure of the family, the income of the household and the current zoning of the housing benefits. As previously mentioned , the aim of this new benefit is to reduce the inflationary effect of housing benefits and to ensure better integration with the other benefits. However, potential recipients, the entity considered, the frequency at which the benefit is allocated and the resources taken into account in the eligibility criteria differ between the three benefits. In this section, we set out the choices we made regarding the new benefit (next subsection). The constraints of the reform scenario as well as its design are then discussed.

Outline of the reform

Potential recipients of the new benefit include all individuals aged 18 and above, except students[9] and people over 64. The budget allocated to students and people over 64, who are eligible for housing benefits with the current system, is reallocated to fund student housing and pensions. Eligibility for the new benefit no longer depends on the occupancy status and therefore, owners, first-time home buyers and tenants can be potential recipients.

The entity is identical to the current one for the RSA: the main beneficiary, his or her spouse and dependants under 25, if their income is less than the RSA surplus due to membership of the household. We keep the RSA premiums, based on the OECD equivalence scale, to account for the family situation.

In order to ensure that the new benefit is adapted in response to changes in the circumstances of recipients such as a change in employment status or a wage increase, we decided to retain the frequency of the RSA based on a quarterly assessment of resources in the current year. The periodicity and the frequency of the RSA are more adapted than those of

housing benefits. Eligibility for housing benefits is based on resources earned two years before the benefit claim.

The resources considered to determine eligibility are similar to those currently taken into account for the RSA. We considered earned income, social security allowances (unemployment benefits, family allowances, etc.), pensions, as well as rents received by owners[10]. The new element that we introduced is the imputed rent for owners. The notion of an "imputed rent", which is sometimes referred to as "fictional rent", covers the rental service that home-owners render themselves. It represents the rent that owners would pay if they were renting their housing. Based on the scope of recipients defined above, both owners and tenants can benefit from the new allowance. We have therefore decided to include imputed rent so that the new benefit would be neutral with respect to the occupancy status[11] .

In concrete terms, the amount of the new benefit is a linearly decreasing function of earned income, as can be seen from the formula for the new single benefit below (equation 1). The basic benefit *BB* and the rate at which it decreases with earned income β are the two parameters that can be set.

$$(1)\quad NB_i = BB + \beta EI_i + GP_z + P_{rsa} + (R_h + IR_h)$$

where:

NB_i is the amount of the new benefit to be determined for individual *i*;

BB is the basic amount of the benefit;

β is the phase out rate;

EI_i is the earned income of individual *i* claiming the benefit;

GP_z is the geographical premium that varies with zone *z*;

P_{rsa} is the current RSA premium for family composition;

R_h are the resources of household *h*;

IR_h is the imputed rent of household *h*.

Finally, we need to make an assumption concerning the take-up rate of the new benefit. While the take-up rate is rather high for housing benefits and the PPE (estimated between 95% and 98%), it is much lower for the RSA (around 50%) (Fragonard, 2012). We are therefore unable to estimate what the take-up rate of the new benefit would be. For the reasons set out above, namely the under-representation of the poorest households which implies an under-estimation of the amounts of benefits allocated, we assumed a take-up rate of 100% to be as close as possible to the actual amounts reported in the National Accounts.

Constraints and design of the reform scenario

This scenario is designed using the budget constraint of the current system, *i.e.* €28.4 billion minus the €3 million allocated to students and people over 64. Since they are not in the scope of recipients, the budget allocated to them is set aside to fund student housing or pension schemes.

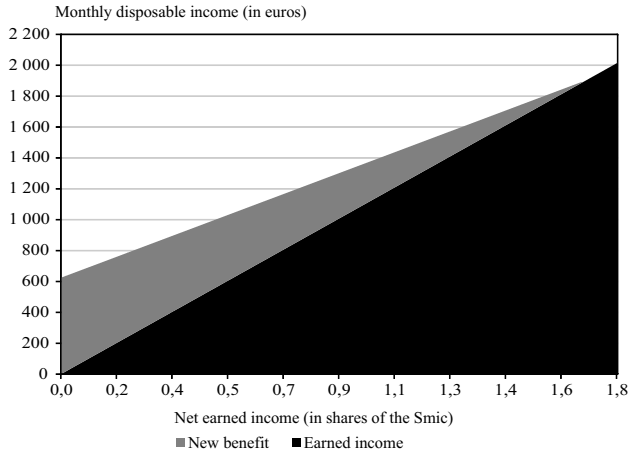
Different benefit scales can then be defined depending on which objective takes precedence over the other[12]. Indeed, two parameters can be set. The first is the parameter indicating how the benefit slowly phases out as the earned income rises (β in equation 1). This parameter should be used if the priority is giving the right incentives to a return to paid work. The second parameter is the basic benefit guaranteed to individuals without earned income (*BB* in equation 1). This parameter is the priority if the main objective is to reduce poverty. A third criteria that can be used to guide the design of the new benefit is the redistributive effect of the reform. It can be interesting to limit not only the vertical redistributive effects (between households with different incomes) but also the horizontal redistributive effects (between households with different family compositions and localities).

In this paper, we have chosen to design a benefit that would limit redistributive effects given a constant budget constraint. With these constraints in mind, we simulated several scenarios with different basic benefit and slope parameters until we found those causing the smallest redistributive effects. The basic amount guaranteed for people living alone, with no earned income and living in zone 3, is €624 per month (see figure 3). A premium by zone of an amount equivalent to current premiums, *i.e.* €53 per month for zone 1 and €16 per month for zone 2, is added to this basic minimum as well as a premium to account for the family composition of the household. The defined scale enables recipients to combine a significant share of income with the new benefit. For an increase of €100 in earned income, the amount of the benefit decreases by about €32, which means that total net resources rise by €68. Equation 1 would therefore look like this:

$$(2)\quad NB_i = 624 + 0.68\ EI_i + GP_z + P_{rsa} + (R_h + IR_h)$$

This new benefit ends the double penalty of the current system and it guarantees that existing social benefits preserve earned income (see figure 3).

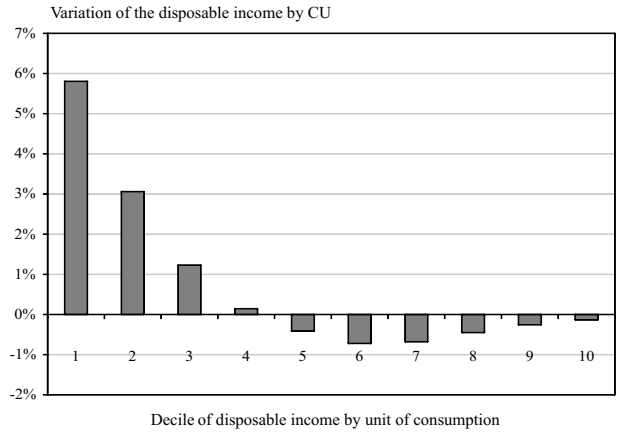
Figure 3: Amount of the new benefit as a function of earnedincome – Single person living in zone 3



N.B.: This standard case represents the total amount of the new benefit received as a function of income, expressed as a share of the minimum wage (Smic), for a person living in zone 2.

Source: TAXIPP 0.4.

Figure 4: Impact of the new benefit on disposable income by deciles



Interpretation: For the first decile, gains from the reform represent an average of around 6% of current disposable income.

N.B.: This figure shows the average gains and losses in household disposable income by decile of disposable income by consumption units (CU).

Sources: ERFS FPR 2011 Survey, French Housing Survey, 2006, National Sample of Recipients CNAF 2012 and TAXIPP 0.4.

Redistributive impact of the proposed reform

Net effects on disposable income by deciles

To analyse the redistributive impacts of the reform, we first look at its net effects on disposable income by deciles of living standards. The net effect on disposable income is relatively moderate: the average variation of disposable income is less than 6% for all deciles (see figure 4). We also note that the reform mostly benefits the first four deciles. For the poorest ten per cent, disposable income increases by an average of 5.8%. The magnitude of the overall effect is explained by the relatively low average disposable income of households from the first decile (around €12,000 per year). It hides more subtle changes among households: in the first decile, the main winners are households that are currently excluded from either the RSA (young people) or housing benefits (poor owners). However, households which currently receive all types of allowances see their level of benefits decrease. The average effect of the reform is negative for deciles 5 to 10, meaning that, on average, these households receive less benefits. But the average loss represents less than one per cent of disposable income.

Net effects on disposable income by types of households

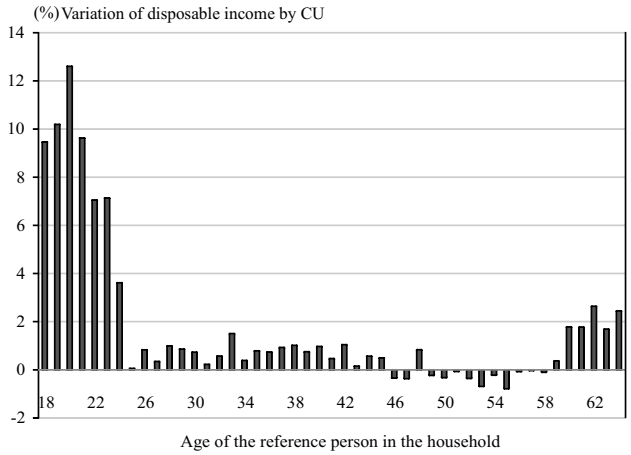
In table 1, we present a more detailed analysis of the impact of the reform by looking at the average amounts gained or lost considering different categories such as the composition of the household, the income deciles, the occupancy status and the rental sector.

First, the majority of households is not affected by the reform: 65% of households keep the same standard of living. Households belonging to the first income decile are logically the most affected by the reform as they are by definition the main recipients of social benefits. The analysis of the results by income deciles reveals that the main winners are concentrated in the first five deciles: 41% and 56% of the households belonging respectively to the first and second deciles see their standard of living increase. The gain for the first decile represents on average €2,771 per year.

We then performed a more in-depth analysis of the redistributive impacts of the scenario and tried to define the profile of the winners in the first income deciles. We note that households that benefit from the reform are low-income owners, individuals under 25 and single-parent families. These results are in line with the design of the scenario: it includes low-income owners and young individuals in the scope of recipients of the new benefit, while this is not the case with the current system. Figure 5, which represents the average gains and losses by age profile, suggests that gains for individuals under 25 explain most of the effects in the first deciles. Indeed, the average increase of disposable income for this category is between 4% and 13%. Finally, because we have retained the premium system of the RSA, which is known to be quite advantageous to single-parent families, this household category also largely benefits from the reform: disposable income increases by about 5.2% on average.

Because we designed our scenario with a constant budget constraint, the fact that some households benefit from the reform necessarily implies that others lose out. However, households receiving less

Figure 5: Effect of the new benefit on disposable income by age profiles



Interpretation: For households whose reference person is 18 years old, gains from the reform represent an average of around 9.5% of current disposable income.

Note: This figure shows the average gains and losses in household disposable income by age profile. The age is the age of the reference person of the household.

Sources: ERFS FPR 2011 Survey, French Housing Survey, 2006, National Sample of Recipients CNAF 2012 and TAXIPP 0.4.

benefits are spread across all the income deciles. The average loss is lower than the average gain.

A first explanation of the losses in the first decile is that we have chosen a scenario that could both restore work incentives and maintain a decent income for households without resources in order to limit redistributive effects. Taking into account these objectives, the reform is designed so as to guarantee a minimum of €624 per month, against €721 in the current system[13]. This mechanically entails losses in the first decile. Low-income owners could also explain losses in the first decile. They receive less benefits after the reform because we decided to include the "fictional rent" in the resources considered. When this fictional rent is too high, these households can even become non-eligible for the new benefit. Finally, because the resources considered for eligibility differ from those of the current system, some households become non-eligible because of the change of definition. This is for instance the case for recipients of the *Complément* de *libre choix d'activité* (supplement for free choice of working time), a social benefit allocated to parents who reduced their activity after their child was born. We decided to include this benefit in the resources used to determine eligibility. This last feature explains losses observed in higher income deciles.

Table 1: Redistributive effects of the new benefit

	Neutral	Winners		Losers	
	% by category	% by category	Difference average (euros)	% by category	Difference average (euros)
Total	65	16	1,951	19	1,411
Composition of the household					
Single person	70	16	1,186	14	1,682
Couple without children	76	7	1,958	17	1,066
Couple with children	48	23	2,586	29	1,452
Income deciles					
1	38	41	2,771	21	1,787
2	27	56	1,446	17	1,525
3	49	29	1,870	22	1,761
4	61	15	1,376	24	1,815
5	67	6	758	27	1,587
6	73	1	420	26	1,158
7	79	0	NS	21	993
8	85	0	NS	15	876
9	88	0	NS	12	872
10	91	0	NS	9	969
Occupancy status					
Owners	81	5	1,960	14	1,027
Renters	44	30	1,949	26	1,702
Rental sector					
Private	70	12	1,851	18	1,294
Social housing	35	37	2,138	28	1,842

Interpretation: Among single persons, 16% win with the new benefit and the average gain is around €1,951 per year.

N.B.: This table presents the simulation results of the redistributive effects of the new benefit. "NS" is reported when results are not statistically significant.

Sources: ERFS FPR 2011 Survey, French Housing Survey, 2006, National Sample of Recipients CNAF 2012 and TAXIPP 0.4.

Conclusion

The purpose of this paper is to propose a reform of the current French housing benefit system, which has been heavily criticised, essentially for the rent increase it entails and for the disincentives it creates for a return to paid work. With a constant budget constraint and the objective of avoiding any large redistributive impacts, the aim of this paper was to define a new benefit. This new benefit, not specifically targeted at the consumption of housing, results from the merging of housing benefits, the RSA and the PPE, the French equivalent of the earned income tax credit. This combination, which is a logical continuation of the *Prime d'activité* (in-work benefit), simplifies support payments to low-income people, reduces the appropriation of housing benefits by owners, and restores the gains of a return to paid work.

Because we chose to include individuals aged under 25 as well as low-income owners in the scope of recipients, they receive a higher amount of benefits with the reform. Single-parent households also benefit from the reform as we decided to keep the current RSA premium system. In this paper, we chose to present a scenario in which the support to low-income households and the incentives to a return to paid work were equally important: the new benefit guarantees a minimum of €624 to households without financial resources and allows individuals resuming a paid activity to combine 68% of their income with the amount of the benefit. However, the number of options existing regarding the level of those two parameters is infinite and mostly depends on political priorities. Therefore, defining the optimal level for those two parameters goes well beyond the scope of this paper.

The combination of three social benefits described here constitutes a first step, bold but not utopian, towards better integration of our tax and benefit system. Ultimately, this combined benefit aims to integrate all social benefits (unemployment insurance, family allowances, allowances for disabled adults, etc.) into one coherent scheme.

Further research is however needed to better understand the effect of such a new benefit on rent levels and on employment. Although we do believe that our reform would encourage paid activities and reduce rent inflation by lessening the labelling effect and removing the third-party payment system, we were not able to quantify such effects. Indeed, the static approach we used in this study does not account for behavioural responses, which makes it difficult to anticipate any effect on prices or on the job market.

Finally, such a reform would also entail a reorganisation of the different government departments in charge of the three benefits considered in this study, namely the *Caisse d'allocations familiales* and the tax administration. Evaluating the gains or the extra operational costs induced by the reform is crucial to determine its feasibility but given the data and information at hand, we were not enable to provide estimations.

Notes

(1) To be eligible for the APL, the owner must have signed an agreement with the State that guarantees that the housing meets certain standards, such as having a shower and toilets, access to drinking water, etc.

(2) The criticism related to the unnecessary complexity of the housing benefits system in France has been raised by several experts, namely Trannoy and Wasmer (2013), Bozio *et alii* (2015).

(3) Since 2016, the benefit decreases with the rent if it is more than 2.5 times the rent ceiling.

(4) At present, no empirical study has been carried out to specifically measure the effect of these three assumptions in France. However, they could explain the extent of the inflationary impact measured empirically.

(5) This amount is the minimum income allocated to a single person since September 2016. It is revised every year.

(6) Since January 2016, the *RSA activité* and the PPE have been merged into a single benefit called the *Prime d'activité*. We were unfortunately not able to account for this change in this paper. It is however an ongoing project carried out by the *Institut des politiques publiques's microsimulation team.*

(7) These documents are available online at the following address: http://www.ipp.eu/fr/outils/taxipp-simulation.

(8) Given that the housing survey underestimates the number of recipients of housing benefits, we tried to deal with this issue using our microsimulation model.

(9) The inclusion or exclusion of students in the scope of recipients is very often debated. Some advocate that the income and assets of the parents must be taken into account to determine the amount of the benefit, while others consider that students should all receive the benefit irrespectively of their parents' resources. The argument of the latter view is that students should not be dependent on their parents' decision to help them finance their studies or not.

(10) The 2016 housing benefit reform now also takes into account estate and assets. The data at hand does not enable us to do so, but it would be interesting to use such resources to determine eligibility for the new benefit.

(11) In the same vein, it would also be interesting to account for the advantage people benefit from in social housing. Such households indeed pay lower rent and are also eligible for housing benefits. The difference with rent in the private sector was estimated to be €261 per month on average in 2006 (Trevien, 2013).

(12) Bozio *et alii* (2015) propose several benefit scales that could be adopted. One benefit scale guarantees that the disposable income of households without resources remains the same with the new benefit. Another benefit scale aims to restore the incentives to resume paid employment and ensures that a large share of earned income can be combined with the benefit.

(13) This figure does not take into account geographic zone premiums.

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Appendix A1 :The complete formula for housing benefits

The calculations behind the housing benefit scale are particularly complex, but are carefully detailed in a document published by the ministry in charge of housing policies(1). In this appendix, we make a detailed presentation of each component of the housing benefits' formula.

The formula

The amount of housing benefits received by a household (AL) is mainly determined by four variables: the composition of the household (m), its resources (R), its rent (L_1) and the geographic area of the housing (z). The simplified version of the formula can be written as follows:

$$AL(z,m,L_1,R) = L(z,m,L_1) + C(m) - P_p(R,m,L_1)$$

$L(z,m,L_1)$ stands for the reference rent, $C(m)$ is a lump-sum amount accounting for service charges, P_p is the financial contribution of the household to the rent.

The rent and service charges

The parameter ($L(z, m, L_1)$), is either the rent net of service charges (L_1), or the rental ceiling ($L_2(z, m)$), which varies depending on the geographic area of the housing and on the household's composition. A fixed amount for service charges, which also depends on the household's composition, is added ($C(m)$). The total of the two corresponds to the "eligible expenses" E:

$$E(z,m,L_1) = L(z,m,L_1) + C(m) = \min[L_1; L_2(z,m)] + C(m)$$

The contribution of the household

The financial contribution of the household (P_p) is expressed as the total of a minimum contribution (P_0) and a contribution proportional (T_p) to the recipient's resources (R_p). The formula for P_p is the following:

$$P_p = P_0 + T_p * R_p$$

More precisely:

– P_0 is either equal to a fixed amount (€34.53 in 2013), or to a percentage (8.5% in 2013) of the eligible expenses, whichever is higher:

$$P_0 = \max[34.53 ; 0.085 * E]$$

– T_p is the rate determining the level at which the household should contribute to paying the rent, equal to the sum of T_f, a rate depending on the composition of the household, and of T_l, a complementary rate detailed below;

$$T_p(z,m,L_1) = T_f(m) + T_l(z,m,L_1)$$

(1) See the document "*Eléments de calcul des aides personnelles au logement*", (2013), available on the following website: www.territoires.gouv.fr/publication/elements-de-calcul-des-ai-des-personnelles-au-logement-2013_1309.

– T_l is a function of the rental ceiling and of the reference rent L_{ref}, which depends on the number of dependents within the household. This parameter can be presented as follows:

$$T_l = \begin{cases} 0 & if\ L/L_{ref} \in [0;45\%[\\ [(L/L_{ref})*100*45-20,2]/100 & if\ L/L_{ref} \in [45\%;75\%[\\ [(L/L_{ref})*100*45-37,5]/100 & if\ L/L_{ref} \geq 75\% \end{cases}$$

– R_p is the difference between the resources of recipient R and a lump-sum amount R_0. When the difference is negative, we leave it at zero:

$$R_p = \max[R-R_0;0]$$

– The lump-sum amount R_0 is the difference between a share of the RSA $socle(R_1)$ and a share of the monthly basis for the calculation of family allowances (R_2). Those shares are themselves a function of the household's composition:

$$R_0 = 90\%*12*[R_1(m) - R_2(m)]$$

The complete formula

Therefore, the complete formula to compute the amount of housing benefit to which one is eligible for can be expressed as follow:

$$A(z,m,L_1,R) = \underbrace{\min[L_1; L_2(z,m)]}_{L} + \underbrace{C(m)}_{C}$$

$$- \underbrace{(\max(35.53; \frac{8.5}{100}*(L+C))]}_{P_0} + \underbrace{[T_f(m)+T_l(z,m,L_1))}_{T_p}$$

$$*\max[R - \underbrace{\frac{90}{100}*12*(R_1(m) - (R_2(m))}_{R_0};0]$$