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Contributions aux approches subjective et
multidimensionnelle de la pauvreté**

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Éléonore Richard. Mesurer la pauvreté : du revenu au ressenti. Contributions aux approches subjective et multidimensionnelle de la pauvreté. Economies et finances. EHESS (École des Hautes Études en Sciences Sociales, 2024. Français. NNT: . tel-04916473

HAL Id: tel-04916473

<https://shs.hal.science/tel-04916473v1>

Submitted on 28 Jan 2025

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École doctorale 465 – Économie Panthéon Sorbonne

Paris-Jourdan Sciences Économiques

Thèse de Doctorat

Discipline : Sciences économiques

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Mesurer la pauvreté : du revenu au ressenti

*Contributions aux approches subjective et
multidimensionnelle de la pauvreté*

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Date de soutenance : le 15 novembre 2024

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Remerciements

Je tiens tout d'abord à remercier mon directeur de thèse, Éric Maurin, pour sa disponibilité tout au long de cette aventure académique. Ses conseils avisés et la rigueur de ses remarques ont été essentiels dans l'aboutissement de ma thèse. Je remercie également Marc Gurgand d'avoir accepté d'évaluer ce travail, et pour son suivi attentif ces dernières années au sein de mon comité de thèse. Je souhaite également exprimer toute ma gratitude à Catherine Bobtcheff pour son soutien bienveillant tout au long de cette année, ainsi qu'à tous-tes les personnels de PSE, dont l'aide m'a été précieuse.

Un grand merci à mes rapporteur-es, Dominique Meurs et Michaël Zemmour, pour leurs suggestions éclairantes qui m'ont permis d'améliorer significativement la qualité des chapitres et de prendre du recul sur mon travail. J'espère en avoir mieux précisé les contours et la démarche dans l'introduction. Je tiens aussi à exprimer ma profonde gratitude à Nicolas Duvoux, dont le soutien précieux, la gentillesse, la disponibilité et la pertinence de ses conseils ont été essentiels tout au long de cette thèse, et qui m'a ouvert des perspectives, notamment avec ma participation au Comité scientifique du CNLE.

Je tiens également à exprimer ma reconnaissance à Thomas Lellouch et à Marc Fleurbaey qui m'ont permis de prendre part à un projet inspirant sur la pauvreté multidimensionnelle et grâce auxquels j'ai beaucoup appris. Ce projet a en outre insufflé une nouvelle dynamique à ma thèse et donné un sens profond à ma dernière année de travail. Je pense également à l'équipe du comité de pilotage — Benoît Reboul-Salze et Denis Rochette d'ATD Quart-Monde, Mathilde Nugue du Secours Catholique — avec qui nous avons mené un travail porteur et que j'espère voir continuer à prospérer. Je remercie aussi Baptiste pour notre collaboration enrichissante, ainsi que Jean-Noël Senne et Camille Saint-Macary pour nos discussions passionnantes, même si les projets communs n'ont pas pu aboutir : ce sont les aléas de la recherche ! Enfin, merci à Xavier Jaravel pour la collaboration dans le cadre du CAE et le lien avec l'Université de Berkeley, où j'ai passé un séjour mémorable.

Ma passion pour les sciences sociales précède ces quatre années de thèse, et je n'oublie pas Anne-Cécile Broutelle, ma professeure de SES en khâgne, qui a su éveiller mon intérêt pour l'analyse du monde social. Je remercie particulièrement Jérémy, mon « collègue avant tout », avec qui je partage ce parcours et un socle commun de valeurs et de réflexions. Notre collaboration académique n'est qu'une des facettes de notre amitié, qui est aussi multidimensionnelle que mon sujet de thèse.

Je remercie chaleureusement mes collègues doctorant-es, en particulier Léa, ma binôme depuis le début, de même que celles et ceux avec qui j'ai partagé mon bureau de PSE et qui ont contribué à en faire un espace préservé et accueillant : Maëlle, Rafael, Romaine et Sophie. Merci à toutes les personnes que j'ai eu plaisir à croiser sur le campus Jourdan et qui ont égayé mes journées. J'ai une pensée particulière pour Alice et Éric, dont la présence a été un réconfort quotidien depuis le master. Enfin, un immense merci à Mathilde pour ses conseils toujours pertinents et son soutien émotionnel si précieux au fil des années. Même sans être à PSE, tu es l'une des personnes qui a suivi ma thèse au plus près.

Cette thèse n'aurait pas pu exister sans le soutien de mes proches, en qui j'ai souvent puisé la ressource de mener à son terme ce qui m'a maintes fois semblé être une traversée du désert. Je pense d'emblée à ma famille nucléaire, mes parents et mes sœurs : j'ai une chance immense de vous avoir. Merci de m'avoir toujours soutenue dans mes choix et de m'avoir offert le terreau nécessaire pour grandir et prendre des décisions qui m'appartiennent vraiment. Pierre, tu occupes une place à part, merci pour ta présence, ton écoute et ton soutien indéfectible. Merci enfin à tous·tes mes ami·es, thésard·es pour un grand nombre mais pas seulement, parisien·nes établi·es ou désormais occasionnel·les, vous avez représenté une formidable bouffée d'air frais et une mise à distance salvatrice vis-à-vis de mon travail. Merci pour tous les beaux moments partagés, ils resteront gravés en moi.

Résumés

Résumé de la thèse

Dans cette thèse, je combine les approches objective et subjective de la pauvreté afin d'apporter un éclairage nouveau sur le choix du seuil de pauvreté, ses déterminants et le recoupement entre pauvreté monétaire et multidimensionnelle. Mon approche est relative, cherchant à identifier une population marginalisée dans son appréciation ou son traitement, en lien avec la pauvreté perçue comme exclusion sociale, et pas seulement comme faibles revenus. J'utilise des données longitudinales de plus en plus détaillées, incluant des variables subjectives sur le vécu des individus, pour confronter la définition objective de la pauvreté avec la satisfaction de vie, le sentiment d'exclusion ou l'auto-évaluation de la santé. Mon approche, à la fois inductive et interdisciplinaire, mobilise des outils d'économie et de sociologie.

Mes travaux portent principalement sur la France, à l'exception du chapitre 1 qui compare la France à d'autres pays (Allemagne, Royaume-Uni, Australie) ayant des taux de pauvreté similaires. Dans les chapitres 1 et 3, j'examine la pauvreté subjective à travers le bien-être ressenti, pour remettre en question le seuil de pauvreté monétaire et calibrer un indicateur multidimensionnel selon les préférences individuelles. Ces contributions proposent une nouvelle manière de définir la pauvreté, vue soit comme vulnérabilité économique, soit comme cumul de privations, dans la tradition d'identification de la pauvreté de (Sen, 1979). Chaque approche est discutée à la lumière de ce qu'elle apporte aux politiques publiques. Le chapitre 2 s'attache à quantifier les déterminants objectifs et subjectifs du sentiment d'exclusion sociale en France. En comparant ces résultats, je mets en avant les dimensions non monétaires de la pauvreté qui, combinées aux bas revenus, nuisent à la participation sociale des individus.

Cette thèse a une double visée : heuristique, en approfondissant la compréhension du phénomène de la pauvreté à partir du ressenti des individus, et opérationnelle, en proposant des indicateurs concrets pour orienter les politiques publiques. J'appelle à enrichir les indicateurs actuels en intégrant un double seuil de pauvreté (grande pauvreté et vulnérabilité économique) ainsi qu'un indicateur multidimensionnel permettant d'identifier le cumul des privations. Ces indicateurs devraient être discutés à la lumière des concepts de justice sociale et enrichis par l'expérience des personnes concernées.

Mots-clés Pauvreté, Mesure, Exclusion sociale

Summary

In this thesis, I combine objective and subjective approaches to poverty to examine poverty thresholds, their determinants, and the overlap between monetary and multidimensional poverty. My relative approach aims to identify populations that stand out due to their perception of their situation, practices, or treatment, aligning with the definition of poverty as social exclusion rather than merely low income. I use longitudinal data and variables to quantify subjective experiences such as life satisfaction, financial situation, housing, feelings of social exclusion, and self-reported health status, comparing these with the objective definition of poverty based on living standards relative to median income.

My work focuses mainly on France, with a comparative study in Chapter 1 between France and other countries (Germany, the UK, Australia) with similar monetary poverty rates. In Chapters 1 and 3, I explore new ways to define poverty using self-reported well-being (Chapter 1) and individual preferences (Chapter 3), addressing economic vulnerability and the accumulation of deprivations. Chapter 2 quantitatively addresses the relative importance of the determinants of social exclusion in France, testing whether they are objective or linked to the perception of social benefits.

The three essays in the thesis aim both to deepen the understanding of poverty through individual experiences and to propose indicators for public policy. The thesis advocates for a combined approach to monetary and non-monetary dimensions of poverty, suggesting a distinction between extreme poverty and economic vulnerability, and a multidimensional indicator for deprivation accumulation. It also calls for a broader debate on the social justice concepts underlying poverty indicators.

Keywords Poverty, Measurement, Social Exclusion

Introduction générale

Cette thèse intitulée « Mesurer la pauvreté : du revenu au ressenti » tente d’approfondir le lien entre pauvreté objective ou subjective afin d’enrichir la compréhension du phénomène dans un premier temps, et d’esquisser des propositions de mesures complémentaires à l’approche purement monétaire de la pauvreté dans un second temps. La question transversale à ces trois chapitres est la suivante : que nous apprend la perception de leur situation par les individus situés en bas de la distribution ? Par cette thèse, je propose trois travaux méthodologiques et empiriques qui mobilisent les outils de l’économie et de la sociologie et soulignent chacun à leur façon la complémentarité de ces approches. L’introduction générale est structurée en trois grandes parties. Je reviens d’abord sur les définitions traditionnelles de la pauvreté monétaire et matérielle et je présente les unités statistiques et les sources de données les plus utilisées. Je discute ensuite les apports et les limites de l’approche subjective à la compréhension et à la mesure de la pauvreté, avant de mettre en lumière les enjeux méthodologiques et conceptuels propres à la question de la pauvreté en tant qu’objet d’études commun aux sciences sociales. Dans un dernier temps, je replace la singularité de mon approche au sein de la littérature académique et je résume chacun des chapitres.

« Même si la souffrance sociale la plus visible se rencontre chez les plus démunis, il y a aussi des souffrances moins visibles à tous les niveaux du monde social. On peut appartenir à un univers prestigieux, mais n’y occuper qu’une position obscure. Être ce musicien perdu dans l’orchestre qu’évoque la pièce de Patrick Süskind *La Contrebasse*. L’infériorité relative de ceux qui sont inférieurs parmi les supérieurs, derniers parmi les premiers, est ce qui définit les misères de position, irréductibles aux misères de condition, mais tout aussi réelles, et profondes. »

Pierre Bourdieu, *La Misère du Monde* (1993)

Les mesures usuelles de la pauvreté

Définitions et mesures de la pauvreté

Il existe de multiples manières de définir la pauvreté, qui reflètent autant de contextes historiques spécifiques au sein desquels ont émergé des conventions techniques et sociales. Les premières mesures datant de la fin du 19^e siècle jusqu’au début du 20^e siècle privilégiaient une approche par la consommation, ou budgétaire, en tentant d’établir un seuil minimum pour satisfaire les besoins essentiels (nourriture, vêtements, logement, etc.). Les premières enquêtes qui ont constitué autant d’utilisations de cette approche étaient conduites localement, essentiellement en Angleterre (Booth, 1902; Rowntree, 1901) ou aux États-Unis. Les chercheurs s’intéressaient au montant et au contenu d’un panier de biens de base minimum pour joindre les deux bouts et vivre dignement. En ce sens, il s’agit d’une approche absolue de la pauvreté, fondée sur la capacité à satisfaire un certain nombre de besoins considérés vitaux — la définition de ces

besoins pouvant varier d'une société à une autre, et d'une époque à une autre. Aujourd'hui, l'approche absolue de la pauvreté est privilégiée dans la plupart des pays en développement, pour lesquels la Banque Mondiale retient le seuil monétaire absolu de 2,15% par jour. Les États-Unis sont l'un des rares pays où les seuils continuent d'être calculés par la consommation, au moyen de paniers-type qui varient selon l'âge et la structure des familles.

La conception absolue de la pauvreté monétaire se distingue de l'approche relative qui prévaut dans la plupart des pays développés. L'indicateur de Laeken mesurant la pauvreté monétaire à 60 % du niveau de vie médian est ainsi commun à tous les pays européens, dont les instituts statistiques ont adopté une mesure harmonisée de la pauvreté sous l'impulsion de rapports d'experts qui pointaient l'intérêt de réaliser des comparaisons temporelles et entre les pays (Canberra Group, 2001). L'indicateur de pauvreté monétaire relative à 60% du niveau de vie médian est un indicateur d'inégalités puisqu'il mesure un écart par rapport au groupe dans une société donnée, si bien qu'une diminution du niveau de vie médian de la population peut provoquer mécaniquement une baisse de la pauvreté.

L'approche de la pauvreté en conditions de vie vient compléter l'indicateur de Laeken via l'indicateur de privations matérielles et sociales lui aussi harmonisé au niveau européen. L'approche en conditions de vie a été popularisée par les célèbres travaux du sociologue Peter Townsend sur la pauvreté en Grande-Bretagne (Townsend, 1979), qui a mis l'accent sur les conditions d'existence et les privations subies par les personnes, qui les excluent du mode de vie dominant d'une société. En Europe, l'indicateur de privations matérielles et sociales (PMS) recense ainsi 13 types de privations recouvrant les restrictions de consommation, les retards de paiement ou encore les conditions de logement, et qui sont considérées comme pouvant entraver la pleine participation à la vie citoyenne. Cette conception de la pauvreté se rapproche de la définition absolue par la consommation, mais à sa différence, il revêt un aspect subjectif par son caractère déclaratif : ainsi, une personne qui a perdu l'espoir d'obtenir un bien pourrait ne pas exprimer de privation.

Enfin, depuis quelques années, l'approche en termes de bien-être reflète une évolution vers une compréhension plus holistique de la pauvreté, reconnaissant que celle-ci va au-delà de la simple insuffisance de revenus pour inclure des aspects multidimensionnels et contextuels (comme la santé, l'éducation, le logement, etc.) Les travaux pionniers d'Amartya Sen ont fait émerger la conception de la pauvreté comme une privation de capacités, c'est-à-dire de la capacité des individus à vivre la vie qu'ils jugent avoir des raisons de valoriser (Sen, 1985, 1990, 1999, 2008). Cette approche a conduit au développement de l'Indice de Développement Humain (IDH) par le Programme des Nations Unies pour le Développement (PNUD), qui inclut des indicateurs d'espérance de vie, d'éducation et de revenu. Suite au rapport de la Commission Stiglitz (2009) qui préconise d'utiliser des indicateurs de bien-être alternatifs au PIB, de nombreuses organisations ont développé des indicateurs multidimensionnels de pauvreté.

Conventions statistiques associées à la mesure de la pauvreté monétaire

La mesure de la pauvreté monétaire repose sur de nombreuses conventions, dont le but est moins de refléter une réalité sous-jacente que de permettre des comparaisons robustes dans le temps et entre les pays. Dans le cadre de la pauvreté monétaire relative, le seuil est fixé à 60 % du niveau de vie médian des

ménages. Ce niveau de seuil a pour but d'isoler la fraction de la population dont le revenu est inférieur aux conditions de vie jugées acceptables dans une société donnée, et a longtemps été fixé à 50 % de la médiane. Par cette mesure, on vise à compter le nombre de pauvres : c'est un taux d'incidence de la pauvreté (*headcount ratio*), qui reflète le nombre de ménages dont le niveau de vie est inférieur au seuil. Il est possible de compléter cet indicateur par une mesure de l'intensité de la pauvreté, en calculant l'écart moyen entre le niveau de vie des ménages et le seuil (*income poverty gap*).¹

Le niveau de vie d'un ménage est défini par le ratio du revenu disponible sur le nombre d'unités de consommation. Le revenu disponible a vocation à mesurer l'ensemble des ressources réellement accessibles au ménage et comprend les revenus d'activité, les retraites et les prestations sociales, nets des impôts directs. Cette définition du revenu exclut de fait d'autres types de ressources qui sont pourtant déterminants pour juger du niveau de vie de ménages : outre les revenus du patrimoine et ceux de l'activité non salariée, c'est le cas des aspects non monétaires du revenu, notamment les biens et services publics (éducation, santé...), les loyers — sous la forme de loyers imputés que les propriétaires se paient implicitement, ou bien de loyers plus faibles pour les ménages bénéficiant d'un logement social —, et enfin les transferts intra et inter-ménages.² Le nombre d'unités de consommation du ménage, qui constitue le dénominateur du ratio du niveau de vie, reflète la composition du ménage traduite par une échelle d'équivalence. Le but d'une telle échelle est de pouvoir comparer le niveau de vie de ménages de tailles différentes en tenant compte des économies d'échelle qu'ils réalisent, comme le partage des coûts de logement. La plus utilisée est l'échelle d'équivalence dite de l'OCDE modifiée, qui attribue le poids de 1 au premier adulte du ménage, 0,5 à chaque adulte supplémentaire, tandis que chaque enfant de moins de 14 ans reçoit un poids de 0,3.³

Quelles que soient les valeurs prises par cette échelle d'équivalence, la mesure conventionnelle du niveau de vie, et donc de la pauvreté, repose sur l'hypothèse de la mise en commun intégrale des ressources du ménage. Ainsi, on considère que tous les membres d'un même ménage ont le même niveau de vie. Toutefois, même si la théorie microéconomique a souvent modélisé le ménage de manière simplificatrice comme un *homo œconomicus* maximisateur, dont le pendant statistique est la « personne de référence » du ménage des enquêtes Insee (Ponthieux, 2009), la prise de décisions au sein du ménage est plus complexe et résulte de comportements individuels distincts. Cela a été montré par des travaux récents qui ont tenté d'ouvrir la boîte noire du ménage pour mettre en lumière la répartition des ressources entre les membres. Ponthieux (2012) a ainsi montré que moins de deux tiers des couples déclarent mettre intégralement en commun leurs ressources. Ces chiffres sont variables selon les pays européens, dans la mesure où la répartition intra-ménage est influencée par les dynamiques de pouvoir, les normes culturelles et les préférences individuelles, qui donnent souvent lieu à des différences genrées au sein des couples hétérosexuels (Roy, 2006; Commission européenne and Ponthieux, 2013). Par ailleurs, Martin and Périvier (2018) ont

1. Il existe une multitude d'alternatives à ces deux indicateurs d'inégalités : c'est tout l'objet de la tradition de recherche sur « l'agrégation », qui cherche à déterminer des indicateurs satisfaisant des propriétés mathématiques désirables (Atkinson, 1987), par opposition à la tradition de « l'identification » qui s'intéresse principalement à la définition du seuil (Sen, 1979).

2. En particulier, la non prise en compte des transferts intra-ménages peut masquer le fait que des parents sacrifient une partie de leur niveau de vie au profit de leurs enfants, d'où la nécessité de calculer des indicateurs séparés pour la pauvreté des enfants (Bradshaw et al., 2012; Duvoux, 2014; Castagna and Pirani, 2014).

3. Voir le rapport de l'Insee dirigé par Germain et al. (2021) pour une comparaison des taux de pauvreté selon différentes échelles d'équivalence.

souligné que la pauvreté des familles monoparentales et des parents non hébergeants vivant seuls est mal prise en compte, et que leur taux de pauvreté était sous-estimé, dans la mesure où elles bénéficient de moins d'économies d'échelles que les autres configurations. Enfin, ces échelles d'équivalence représentent une moyenne et sont indifférentes au niveau de revenu des ménages et à leurs besoins, qui peuvent varier en fonction d'autres critères que leur taille ou l'âge des membres, au-delà de la différence entre individus âgés de plus ou moins 14 ans, en fonction du cycle de vie et des incapacités associées.

Un autre critère d'importance concerne la temporalité de la mesure du revenu : quelle période de référence considérer ? On considère généralement la somme des revenus annuels d'un ménage, qui est une période suffisamment longue pour refléter le revenu permanent du ménage, car le revenu observé à la date de l'enquête peut constituer une exception.⁴ De nombreux travaux ont souligné la nécessaire prise en compte de la persistance de la pauvreté (Stevens, 1999; Maurin and Chambaz, 1996-1; Beck et al., 2014) et du phénomène de dépendance d'état, par lequel un ménage a davantage de risques de rester dans la pauvreté l'année suivante s'il est déjà pauvre. En France, si 20 % des personnes pauvres une année sortent de la pauvreté pour au moins les trois années suivantes, 40 % des pauvres restent durablement en dessous du seuil de pauvreté pendant cette période (Albouy and Delmas, 2020). Dans une étude récente, Blavier (2023) documente les trajectoires de pauvreté à partir des données SRCV en France et montre que pas moins de 30 % de la population connaît au moins un épisode de pauvreté monétaire au cours des neuf années d'interrogation. Toutefois, la pauvreté se caractérise également par une plus forte volatilité des revenus d'un mois à l'autre, d'où l'intérêt de produire des mesures infra-annuelles, mais celles-ci sont rarement disponibles.

Sources de données disponibles

Il existe de nombreuses bases de données sur les revenus des ménages. En France, l'estimation du taux de pauvreté repose sur l'*Enquête sur les Revenus Fiscaux et Sociaux* (ERFS), qui est l'enquête de référence sur les revenus, dans laquelle sont prises en compte les déclarations fiscales de l'ensemble des membres d'un même ménage du recensement. L'enquête *Statistiques sur les Ressources et les Conditions de Vie* (SRCV) est également une enquête de référence pour la mesure de la pauvreté et des conditions de vie. Publiée annuellement depuis 2004, elle correspond à la déclinaison française de l'enquête Eurostat-SIIC harmonisée entre tous les pays européens, ce qui facilite grandement les comparaisons entre pays. Depuis 2010, elles sont appariées avec les données fiscales, ce qui garantit une grande fiabilité des données portant sur le revenu.⁵ L'unité statistique est l'individu-panel, qui est suivi au fil des réinterrogations annuelles même en cas de changement de ménage. Les enquêtés sont interrogés quatre années de suite obligatoirement, en accord avec Eurostat-SILC et jusqu'à neuf années consécutives, ce qui est une spécificité de l'enquête française. Les données françaises, tout comme certaines enquêtes nationales, comportent davantage de variables que dans SILC — en particulier les questions subjectives y sont posées

4. Lollivier and Verger (2005) recommandaient ainsi d'évaluer la pauvreté monétaire sur une période de l'ordre de quelques années pour minimiser les erreurs de mesure associée à la grande volatilité des revenus dans les données d'enquête. Avec l'appariement des données d'enquête aux données administratives dans SRCV, le problème se pose moins.

5. Malgré cela, les indicateurs de pauvreté et d'inégalités calculés à partir de SRCV ou d'ERFS peuvent présenter des écarts notables.

chaque année, et non pas certaines années seulement en raison des modules tournants.⁶

L'enquête SRCV est une enquête centrée sur les ressources et les conditions de vie de la population générale qui comporte de nombreux avantages, alliant fiabilité des données administratives et richesse des questions d'enquête. Cependant, son mode d'échantillonnage, centré sur le logement ordinaire, ne permet pas de capter certaines franges particulièrement vulnérables de la population, qui continuent pour certaines d'échapper au radar de la statistique publique. Le hors champ de l'enquête comprend toutes les personnes vivant en logement « non ordinaire », c'est-à-dire les foyers de jeunes travailleurs, les maisons de retraite ou les prisons. Les personnes sans-domicile n'y sont pas non plus interrogées mais font l'objet d'une enquête spécifique menée conjointement par l'Insee et la Drees, au rythme plus sporadique, en raison des difficultés méthodologiques spécifiques à ce sujet. Les ménages étudiants sont également exclus du champ de SRCV, puisque leur niveau de vie est particulièrement difficile à évaluer en raison des transferts possibles des parents qui ne sont pas pris en compte par la statistique, à l'exception de l'*Enquête Nationale sur les Ressources des Jeunes* (ENRJ) dont le dernier millésime remonte à 2014. Enfin, l'enquête échantillonne uniquement les individus disposant d'une résidence principale en France métropolitaine, ce qui est problématique pour la mesure de la pauvreté, dans la mesure où plus du quart des habitants des DOM-TOM se classent dans le premier décile de revenu (Germain et al., 2021). Il convient finalement de noter que si la nature longitudinale des données permet l'étude l'analyse des trajectoires de pauvreté et de sa persistance, l'enquête est soumise à un phénomène d'attrition particulièrement prononcé dans le cas des individus pauvres ou vulnérables, et notamment des jeunes. Pour toutes ces raisons, les analyses qui vont suivre se focaliseront nécessairement sur la frange des ménages les moins dotés qui a gardé une certaine insertion sociale, et qui regroupe des ménages en voie de marginalisation, ou sujets à des difficultés passagères.

Les apports de l'approche subjective à la mesure de la pauvreté

Du revenu au ressenti

D'après Accardo (2020), l'intérêt des économistes pour la perception que rapportent les individus de leur situation date du milieu des années 1990, avec la publication de Easterlin (1995) qui en marque le point de départ. Selon l'auteur, suite à l'influence des travaux de l'économie comportementale qui avaient interrogé le modèle canonique de l'*homo aeconomicus*, les chercheurs en économie devenaient plus enclins à raisonner à partir de ce que les individus disent de leur situation, et plus seulement à partir de l'observation de ce qu'ils font.

Le lien entre revenu et ressenti, ou encore entre revenu et bien-être reporté (compris comme utilité au sens microéconomique du terme) avait toutefois déjà été documenté quelques années plus tôt par le même auteur et son fameux paradoxe selon lequel à long terme, une augmentation du revenu moyen d'un pays ne conduit pas nécessairement à une augmentation du niveau moyen de bonheur de ses citoyens (Easterlin,

6. Je mobilise essentiellement l'enquête SRCV, depuis le millésime 2010, dans le cadre des trois chapitres de ma thèse. Dans le chapitre 1, j'utilise les données nationales du Royaume-Uni, de l'Allemagne et de l'Australie qui sont les seules enquêtes à comporter les questions subjectives en panel.

1974). En d'autres termes, la relation entre revenu et bien-être est concave.⁷ Si l'augmentation du revenu ne se traduit pas toujours par une hausse proportionnelle du bien-être, alors on risque de manquer d'importants aspects du bien-être humain en se focalisant sur le revenu. Le paradoxe souligne également que la perception du bien-être dépend souvent de la comparaison sociale plutôt que du revenu absolu. Cela met en lumière la nécessité de considérer à la fois les dimensions objectives et subjectives de la pauvreté dans les politiques publiques et les études socio-économiques.

La plupart des travaux ultérieurs ont approximé le bien-être des individus par une échelle de satisfaction dans la vie.⁸ La question de satisfaction (dite de Cantril, d'après Cantril (1965)) est standardisée dans la plupart des enquêtes et comporte généralement 11 échelons numérotés de 0 (« pas du tout satisfait ») à 10 (« pleinement satisfait »), malgré quelques écarts de formulation entre les pays. Ces travaux ont généralement constaté que la satisfaction dans la vie d'un individu dépend davantage du niveau relatif de son revenu plutôt que de son niveau absolu (Clark and Oswald, 1996; Blanchflower and Oswald, 2004; Ferrer-i Carbonell, 2005; Luttmer, 2005; Stevenson and Wolfers, 2008; Clark and Senik, 2010). Le revenu moyen dans le groupe de référence social de la personne fournit en effet un point de référence naturel pour comparer son propre revenu, comme le montre la théorie des perspectives (Tversky and Kahneman, 1991). Duesenberry (1949), dans son étude fondatrice sur le comportement individuel de consommation et d'épargne, avait déjà postulé que la satisfaction des individus dépend davantage de leur revenu relatif que de leur revenu absolu.

Ce constat d'une satisfaction relative conduit à écarter l'approche purement subjective de la pauvreté, ceci en raison du phénomène d'adaptation. Dans un célèbre passage, Sen (1999) évoque l'exemple du *happy slave* : ce dernier, bien que vivant dans des conditions d'oppression et de privations, pourrait déclarer être satisfait ou heureux en raison de l'adaptation à sa situation, ou de l'absence de conscience d'une vie meilleure. Selon Sen, s'en tenir à un tel discours reviendrait à accepter ou à ignorer les injustices et les privations.

« A person's deprivation in terms of income, or resources generally, may be directly linked to the lack of adequate means to lead a minimally acceptable life. The fact that the person may be resigned to this fate, perhaps even deriving some cheer from acceptance (as in the phenomenon sometimes called 'happy slave'), does not alter the legitimacy of the claims of these deprivations on social concern and action. »

Amartya Sen, *Development as Freedom* (1999)

L'effet d'adaptation, largement illustré par la littérature, a néanmoins conduit à relativiser ce constat, puisque les individus s'adaptent mieux aux hausses de revenu qu'aux baisses (Burchardt, 2005). Dans le cas particulier de la pauvreté monétaire, D'Ambrosio et al. (2016) ont ainsi montré que l'entrée dans la pauvreté définie à 60% du revenu médian entraîne une baisse immédiate et persistante de la satisfaction dans la vie, sans signe d'adaptation au fil du temps. Ces résultats suggèrent que la pauvreté a un effet durablement négatif sur le bien-être subjectif des individus, contredisant l'idée que les individus pourraient s'adapter à des conditions de vie plus difficiles avec le temps.

7. Germain (2024) identifie empiriquement le niveau du seuil de satiété dans plusieurs pays.

8. Il existe une autre manière de mesurer le bien-être subjectif dans les enquêtes, qui concerne davantage l'aspect émotionnel à travers des questions sur les affects : la joie, la peine, l'agacement, etc. La question sur la satisfaction est plus générale et interroge l'enquêté sur l'ensemble de sa vie.

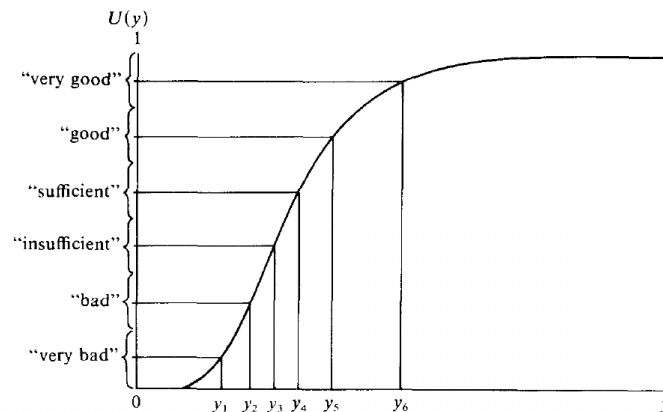


Figure 1. The Welfare Function of Income.

FIGURE 1 – The Welfare Function of Income in Hagenaars and van Praag (1985)

La pauvreté subjective

Au-delà du lien entre revenu et bien-être, qui est informatif à de nombreux égards, la prise en compte de la subjectivité des individus a conduit à des travaux qui ont exploité l'opinion des individus sur leur situation financière afin d'en inférer des lignes de pauvreté. Les travaux menés par les économistes de l'Ecole de Leyden à partir des années 1970, avec notamment van Praag and Hagenaars (1979), ont tenté d'approcher les niveaux d'utilité atteints par les ménages de composition différente au travers des questions suivantes :

— *Income Evaluation Question (IEQ)*⁹ : « Que vous considérez un revenu comme bon ou moins bon dépend de vos circonstances personnelles et de vos attentes. Dans votre cas, qualifieriez-vous votre revenu net du ménage de :

1. Revenu très faible, s'il correspond à ... (donner un montant)
2. Revenu faible s'il correspond à ... (donner un montant)
3. Revenu encore insuffisant s'il correspond à ... (donner un montant)
4. Revenu juste suffisant s'il correspond à ... (donner un montant)
5. Bon revenu s'il correspond à ... (donner un montant)
6. Très bon revenu s'il correspond à ... (donner un montant) »

— *Minimum Income Question (MIQ)*¹⁰ : « Quel niveau de revenu considérez-vous personnellement comme absolument minimal pour joindre les deux bouts ? »

A partir de ces questions, les chercheurs de l'Ecole de Leyden construisent différentes lignes de pauvreté subjective, décrites et comparées dans Flik and van Praag (1991). Ainsi, la *Leyden Poverty Line (LPL)*

9. Cette question a été conçue par van Praag (1968) et illustrée dans van Praag (1971). Par la suite, la question a été simplifiée : « Si on considère les ressources mensuelles de votre ménage, diriez-vous qu'elles vous permettent de vivre : très difficilement, difficilement, plutôt difficilement, plutôt facilement, facilement ou très facilement ? »

10. Cette question peut être considérée comme un cas particulier de la question précédente. Elle est formulée et testée dans Hagenaars and van Praag (1985).

est basée sur l'IEQ et consiste à établir une fonction de bien-être du revenu (*Welfare Function of Income*) à partir de la relation entre les revenus des ménages et l'évaluation numérique correspondante (Figure 1), décrite par une fonction de distribution log-normale avec des paramètres de besoin individuels estimés par la méthode des moindres carrés ordinaires (MCO). Les ménages sont considérées comme pauvres si leur revenu familial après impôts et prestations est inférieur au montant de revenu qui correspond à un niveau spécifique d'utilité ou de bien-être mesuré par la fonction d'utilité. Gardes and Loisy (1997) exploitent la la MIQ sur données françaises, et montrent que les réponses à la question varient fortement selon la position des ménages dans l'échelle des revenus : tandis que les ménages les moins aisés comme les plus aisés évaluent les besoins de subsistance, les ménages des classes moyennes ont tendance à revendiquer davantage un accroissement du niveau de vie au travers de leurs réponses à cette question.

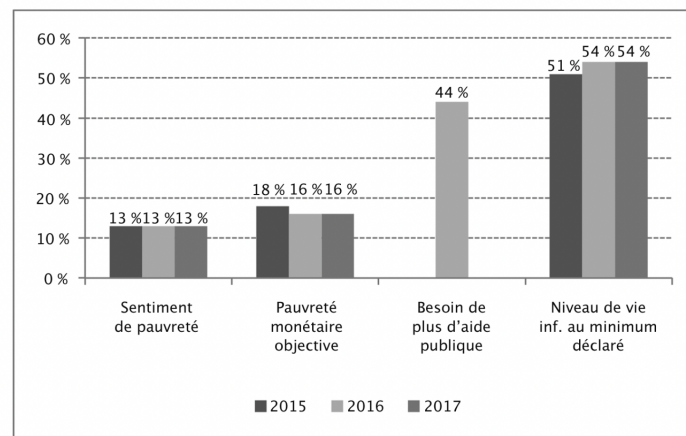
Aussi, les chercheurs s'accordent généralement pour dire que les perceptions subjectives de la pauvreté peuvent diverger de manière significative des mesures objectives. Ainsi, certaines personnes peuvent se considérer comme pauvres même si elles ne le sont pas selon les critères économiques standards, et vice versa. La manière la plus évidente de s'en rendre compte est de comparer le revenu des enquêtés à leur sentiment de pauvreté au travers d'une question directe. C'est notamment ce qu'ont montré Duvoux and Papuchon (2018) à partir d'une question sur le risque de pauvreté (Figure 2). Outre le constat selon lequel pauvreté subjective, définie par le sentiment de pauvreté, et pauvreté monétaire ne se recourent que partiellement, l'étude souligne la dimension dynamique de la pauvreté subjective, qui est étroitement liée à la trajectoire sociale des individus, à la fois passée, via la mobilité intergénérationnelle et le sentiment de déclassement (Maurin, 2009), mais aussi escomptée, via le rapport à l'avenir. Ils montrent en particulier le lien entre sentiment de pauvreté et pessimisme pour l'avenir : la capacité à se projeter dans le futur semble être l'apanage des classes favorisées, et peut devenir un outil heuristique pour juger de la hiérarchie sociale (Duvoux, 2023).

Que nous apprend l'approche subjective de la pauvreté ?

L'apport principal des analyses qui ancrent les mesures de la pauvreté au bien-être subjectif est de questionner les conventions usuelles de pauvreté et de minimiser l'arbitraire associé aux choix établis en amont par les statisticiens.¹¹ D'une part, elles peuvent conduire à redéfinir le niveau des seuils de pauvreté couramment utilisés. C'est notamment le cas des travaux des économistes de l'école de Leyden, qui dérivent un seuil de pauvreté défini comme le niveau de revenu auquel on atteint un niveau critique de bien-être.¹² D'autre part, les données subjectives peuvent mettre en lumière les limites des échelles d'équivalence usuelles. Ainsi, van Praag and Kapteyn (1976) ont proposé une réflexion sur des échelles d'équivalence construites subjectivement, dans la mesure où les approches objectives sont conventionnelles et ne tiennent pas compte de l'évolution des préférences des ménages lorsque la taille du ménage varie. Leur méthode repose sur le ressenti des ménages via les variables d'opinion décrites plus haut. D'après Martin (2017), qui a réalisé une étude sur données françaises, l'approche subjective ne permet

11. Voir Ravallion (2012) pour un état des lieux détaillé des apports et des limites de l'approche subjective à la mesure de la pauvreté.

12. Une autre approche consiste à régresser le bien-être auto-évalué sur le revenu normalisé par le seuil de pauvreté, comme dans Ravallion and Lokshin (2000). Le premier chapitre de cette thèse s'inscrit également dans cette littérature.



Champ : Personnes d'au moins 18 ans résidant en France métropolitaine.

Source : Baromètre d'opinion de la DREES, 2015-2017.

Note : La question sur laquelle se fonde le troisième item n'est posée que les années paires.

Questions posées : Sentiment de pauvreté : « Et vous personnellement, pensez-vous qu'il y a un risque que vous deveniez pauvre dans les cinq prochaines années ? Oui, plutôt/Non, plutôt pas/Je suis déjà pauvre. » ; Besoin de plus d'aide publique : « Actuellement, compte tenu de votre situation globale, du montant des aides publiques (RSA, allocations familiales, aides au logement), et du montant de vos impôts, vous considérez que : Vous êtes suffisamment aidé-e par les pouvoirs publics, ou n'avez pas besoin d'être aidé-e/Vous auriez besoin d'être aidé-e davantage par les pouvoirs publics ? » ; Niveau de vie inférieur au minimum déclaré : « Selon vous, pour vivre, quel est le montant dont doit disposer au minimum un foyer comme le vôtre, par mois (en euros) ? »

FIGURE 2 – Définitions de la pauvreté subjective dans Duvoux and Papuchon (2018)

cependant pas d'identifier de manière robuste une échelle d'équivalence unique, mais donne plutôt une indication d'un « ordre des possibles ». Une autre application des données subjectives consiste à calibrer un indice composite de bien-être en utilisant les coefficients de régression du bien-être subjectif comme des pondérations.¹³ Le recueil des préférences subjectives constitue un outil intéressant pour éviter les écueils de l'ethnocentrisme (lorsque l'observateur se trompe sur l'universalité de son point de vue) et du paternalisme (lorsque le décideur impose son point de vue aux autres pour leur bien) en respectant les besoins et les valeurs des personnes concernées (Fleurbaey et al., 1998). L'identification des préférences individuelles peut s'effectuer par l'observation des choix des individus (méthode des préférences révélées) mais elle ne peut s'appliquer qu'aux dimensions pour lesquelles les individus effectuent de réels choix. Une seconde possibilité consiste à simplement interroger le répondant sur les arbitrages à effectuer entre les biens (méthode d'évaluation contingente, Fleurbaey et al. demandent aux enquêtés d'éliciter un point sur la courbe d'indifférence dans l'espace du revenu et de la santé). Seulement, cette procédure dite des préférences révélées (*stated-preferences*) est à la fois exigeante pour les individus et les instituts statistiques qui ne posent pas ces questions habituellement. Enfin, les préférences peuvent être estimées indirectement, à partir des régressions de satisfaction. C'est cette dernière approche que privilégie Decancq et al. (2019b) afin de calibrer un indicateur multidimensionnel de pauvreté. Leur approche ne consiste pas à monétiser les dimensions non monétaires de la pauvreté mais à les intégrer comme des biens entre lesquels un individu aurait à choisir, dans le cadre théorique des courbes d'utilité et des cartes d'indifférence. Toutefois, ces approches reposent sur des hypothèses implicites qui sont difficiles à tester, en particulier celle que les préférences des répondants sont cohérentes avec leurs réponses sur la question de satisfaction.¹⁴

13. Cette méthode est utilisée dans le troisième chapitre de ce manuscrit pour calibrer un indice de pauvreté multidimensionnelle en France.

14. Ces hypothèses sont recensées et discutées plus en détails dans le chapitre 3.

Si les données subjectives permettent d'informer la mesure de la pauvreté à plusieurs égards, les analyses reposant sur la perception des individus de leur situation soulèvent d'importantes difficultés, qui ont été largement documentées par la littérature. Outre le phénomène d'adaptation cité plus haut, qui peut conduire un individu à surévaluer son niveau de vie comme le soulignait Sen (2008), ou à l'inverse, à le sous-estimer par comparaison avec un groupe de référence plus élevé, les déclarations des enquêtés sont sensibles à la fois au contexte, aux événements de vie et à la perception du futur (voir Accardo 2020). Les échelles de satisfaction, en particulier celle de Cantril, ont été critiquées en raison du caractère vague de la question posée, qui ne permet pas de saisir l'hétérogénéité de ce que les répondants mettent derrière leur appréciation (voir Ravallion (2012), et Accardo (2020) pour une revue des critiques adressées à ces échelles). Toutefois, l'utilisation de données longitudinales permet de lever un certain nombre d'obstacles liés à l'utilisation de variables d'opinion pour mesurer des niveaux d'utilité (Lollivier and Verger, 2005). Enfin, l'utilisation des données subjectives ne doit pas masquer le fait que la majorité des choix relatifs aux indicateurs restent *in fine* entre les mains des personnes qui conçoivent ces mesures, ne serait-ce que par le libellé des questions posées en enquête, ou encore par le choix des dimensions non monétaires de la pauvreté à inclure dans un indicateur, ou bien par celui du niveau d'utilité minimale, tel qu'il est reflété par le seuil de pauvreté utilisé dans les travaux des économistes de Leyden par exemple. Dans l'ensemble, il semble toutefois que l'approche subjective ne vise pas tant à se substituer à l'approche objective (généralement par le revenu) qu'à la compléter. Elle procure un ensemble des possibles, donne des intervalles de confiance qui peuvent permettre d'ancrer les choix dans un plus large consensus démocratique, à condition que les préférences soient identifiées correctement. Elles ont l'avantage de ne pas reposer sur des choix conventionnels, effectués en amont par des économistes ou des statisticiens, qui ne tiendraient pas compte des préférences des personnes concernées.

Les enjeux méthodologiques et conceptuels de la démarche

Quel regard et quel cadre conceptuel pour analyser la pauvreté ?

L'étude de la pauvreté se situe à l'intersection de plusieurs disciplines des sciences sociales, qui chacune portent un regard spécifique sur l'objet d'étude, même si les frontières interdisciplinaires sont parfois poreuses. C'est d'abord aux sociologues que l'on pense lorsqu'il s'agit de préciser ce qu'une société définit comme étant la pauvreté. Les sociologues et anthropologues se sont moins intéressés à la question de la mesure de la pauvreté qu'à la description de ses formes en construisant des cas-types et en discernant des régularités (Herpin and Verger, 1998). Si l'étude descriptive des processus et des déterminants est commune aux travaux de recherche en économie et en sociologie quantitative (Fall et al., 2010; Beck et al., 2014; Blavier, 2023), l'économie s'est chargée la question de la mesure de la pauvreté, via l'adoption d'indicateurs visant à obtenir des outils conceptuels pour mener et évaluer l'action des pouvoirs publics en la matière. C'est du moins le fait de l'économie normative, à distinguer de l'économie positive qui n'aborde la question de la pauvreté qu'indirectement. Cette dernière s'est en effet centrée sur l'analyse des inégalités (Piketty, 1997) ou sur celle du rôle des modèles institutionnels dans la lutte contre la pauvreté, qui fait

également l'objet de travaux en sciences politiques (Chevalier and Grobon, 2019). L'économie positive aborde également la question de la pauvreté sous l'angle de la prise de décision, qui connaît désormais un récent renouveau au sein de l'économie comportementale, grâce aux apports de la psychologie et des sciences cognitives. Ainsi, la question de la rationalité économique des plus pauvres a beaucoup évolué mais fait encore débat : tandis que les personnes pauvres ont longtemps été considérées comme économiquement « myopes » (Herpin and Verger, 1998), les travaux de l'économie comportementale ont mis en lumière les obstacles cognitifs associés à la situation de rareté ou de pénurie (*scarcity*), qui excède la question de la pauvreté et induirait « une diminution du quotient intellectuel et du contrôle de soi » (Mullainathan and Shafir, 2013). Dans le cas de la pauvreté, l'espace mental disponible des individus concernés — le cerveau est assimilé à une « bande-passante » (*mental bandwidth*) — se verrait ainsi taxé par la prépondérance et l'urgence des préoccupations d'ordre matériels, ce qui empêcherait de se comporter conformément au modèle de l'individu rationnel et maximisateur. La recherche en sociologie soutient quant à elle que la gestion d'un budget en temps de pénurie est spécifique, et s'attache à mettre en lumière une forme de rationalité alternative à la rationalité microéconomique du modèle néoclassique (Colombi, 2020).

Aussi, les statisticiens soucieux de la question des indicateurs de pauvreté à utiliser peuvent se nourrir des apports de l'économie normative, et en particulier des travaux de Sen sur les capacités, qui ont mis en lumière leur caractère variable d'une époque à l'autre, et d'une société à une autre (Sen, 1985, 1990, 1992, 1999). Fleurbaey et al. (1998) montrent les liens entre les développements sur la pauvreté conduits par l'économie normative et les philosophies économiques de la justice, qui peuvent fournir des justifications à l'utilisation des outils statistiques usuels de mesure de la pauvreté. Ceux-ci ne sont pas que des conventions statistiques mais sont ancrés dans un contexte. Ainsi, l'hégémonie de l'approche relative, qui tend à considérer que les pauvres sont ceux qui ont moins de ressources que les autres, serait à relier à l'optimisme des Trente Glorieuses, durant lesquelles on se préoccupait moins d'éradiquer une pauvreté matérielle absolue, vue comme quasiment anachronique, qu'à permettre le rattrapage des classes les moins favorisées vis-à-vis du niveau de vie général de la population. La genèse du concept d'exclusion s'explique également par le contexte économique et politique : apparue dans les années 1970, la notion d'exclusion sociale incarne le relatif échec de cette vision optimiste du progrès social continu. Depuis, le concept est progressivement devenu un enjeu central des politiques publiques dites de « lutte contre l'exclusion ». L'objectif de lutte contre l'exclusion sociale avec les premiers minima sociaux s'est rapidement accompagné d'une volonté de réinsérer par l'emploi, avec la mise en place de dispositifs d'incitation pour réduire les effets considérés « pervers » des transferts sans contrepartie à destination des ménages, dans un contexte de crainte d'un effet « trappe à la pauvreté ». Aussi, les évaluations économétriques du Revenu minimum d'insertion (RMI) et de son successeur le Revenu de solidarité active (RSA) se sont essentiellement portées sur les gains de retour à l'emploi (Gurgand and Margolis, 2008; Bargain and Doorley, 2011; Bargain and Vicard, 2014). Pourtant, l'objectif de ces minima sociaux, comme celui de la Prime d'activité mise en place en 2016, est double : permettre le retour à l'emploi et lutter contre la pauvreté, ce qui contrevient à la règle d'un instrument par objectif (Tinbergen, 1952). Les évaluations économétriques des politiques publiques de lutte contre la pauvreté s'effectuent donc

dans un cadre normatif dont il convient de préciser la teneur lorsque l'on se pose la question du « bon » indicateur de pauvreté (Allègre, 2024). En effet, on ne peut répondre à la question méthodologique de « comment » mesurer la pauvreté sans se demander dans quels termes le problème est posé, et quels sont les concepts de justice sociale qui le sous-tendent. En ce sens, l'approche positive de la pauvreté, qui vise à renseigner sur les indicateurs à privilégier via la mise en lumière des différents publics qu'ils exposent, est indissociable de questions normatives. L'examen des indicateurs peut ainsi s'effectuer à l'aune de la mise à jour d'un paradigme dominant à l'œuvre dans une société et une époque données, paradigme que la prise en compte de l'expérience vécue de la pauvreté au travers de l'approche qualitative peut toutefois conduire à remettre en question.

La complémentarité des approches quantitative et qualitative

Historiquement, la littérature économique a mobilisé les outils mathématiques et statistiques pour identifier la pauvreté, construire et calibrer les indicateurs de pauvreté, mais elle emprunte à d'autres traditions disciplinaires et d'autres méthodologies en élargissant progressivement son champ d'analyse. Il en va notamment des travaux récents portant sur la pauvreté multidimensionnelle qui se nourrissent des apports de la recherche participative, et renouvellent ainsi la question de la mesure en retenant un concept de bien-être fondé sur l'aspect qualitatif du vécu des personnes en situation de pauvreté. Les apports de la recherche participative sont multiples et concernent le choix des dimensions de la pauvreté et de leur importance relative, mais aussi la formulation adéquate des questions posées en enquête, préalables à la construction de tout indicateur mettant en lumière de les aspects non monétaires de la pauvreté. Ainsi, la recherche participative menée dans six pays entre 2016 et 2019 par l'Université d'Oxford et l'association ATD Quart-Monde a permis d'identifier les dimensions cachées de la pauvreté (Bray et al., 2019). La méthode du Croisement des savoirs implémentée dans cette étude a été l'occasion d'un dialogue entre chercheurs et personnes en situation de pauvreté pour tenter de mettre à jour les dimensions les plus caractéristiques de la pauvreté d'après leur vécu. L'objectif d'une telle recherche est avant tout heuristique, mais la recherche participative présente également un intérêt opérationnel lorsqu'elle donne lieu explicitement à la construction d'un indicateur agrégé dont les dimensions de la pauvreté ainsi que leurs poids relatifs sont déterminés par un panel de personnes concernées (Pogge and Wisor, 2016).

Les analyses qualitatives sont complémentaires des analyses quantitatives : tandis que les premières sont caractérisées par l'observation du singulier, les secondes ont pour objectif le repérage de relations stables et régulières (Gondard-Delcroix, 2003). Si les pouvoirs publics ont besoin de mesures globales pour répondre efficacement aux besoins des populations identifiées comme pauvres et orienter les politiques sociales, la prise de décision politique gagne à être guidée par des évaluations quantitatives qui tiennent compte des particularités du contexte dans laquelle ces politiques publiques sont menées. Cette complémentarité entre quantitatif et qualitatif dans le domaine de l'évaluation se manifeste à différents niveaux. Là où les méthodes quantitatives vont formuler une hypothèse et la tester, les méthodes qualitatives vont questionner la pertinence de l'hypothèse au regard du contexte, mais aussi éclairer l'évaluateur sur les variables de contrôle à intégrer à l'analyse et sur la réception de l'intervention publique par les acteurs ciblés, ce qui peut conduire à prévenir de potentiels biais de sélection (Baiz and Revillard, 2022). Ainsi,

dans le cas des politiques publiques de transferts à destination des populations les plus défavorisées, les évaluations économétriques concluent généralement à un effet nul ou très modeste des dispositifs incitatifs comme le RMI ou le RSA en France sur le retour à l'emploi des personnes concernées, sans toujours parvenir à mettre au jour les mécanismes. Aux États-Unis, une expérimentation aléatoire contrôlée menée par Vivalt et al. (2024) a récemment montré que le versement d'un revenu minimum garanti ne conduisait ni à une hausse du taux d'emploi chez les personnes ciblées par l'intervention, ni à une amélioration de la qualité des emplois occupés. Ainsi, comment expliquer le peu d'effets des politiques sociales en termes de retour à l'emploi ? Si les transferts monétaires n'ont pas d'effet, c'est sans doute que la nature des obstacles à la reprise d'emploi n'est pas monétaire dans le sens où ces obstacles ne peuvent être surmontés par un flux de revenus, ce qui renvoie directement à l'idée qu'il existe des dimensions non monétaires de la pauvreté. Il est souvent avancé que les obstacles à la reprise d'emploi diffèrent selon les catégories de population considérées : les chômeurs de longue durée, les familles monoparentales, ou encore les jeunes ni en emploi, ni en études, ni en formation (les NEETs) ont tendance à cumuler les difficultés et se trouvent particulièrement éloignés de l'emploi. Ainsi, dans l'expérimentation « Territoires Zéro Chômeur de Longue Durée », les approches quantitatives et qualitatives ont été mobilisées pour identifier les freins à l'emploi dans le cas des personnes durablement privées d'emploi (Territoires Zéro Chômeur de Longue Durée, 2021). Les méthodes qualitatives renseignent sur les particularismes associés à des populations distinctes au travers des phénomènes de trappe à la pauvreté, de cumul des handicaps, de la dépendance aux institutions d'assistance ainsi que la stigmatisation et de l'exclusion qu'elles peuvent entraîner (Méda, 1991; Paugam, 2009). Dans le cas de la pauvreté, l'approche qualitative favorise ainsi plus largement un travail de réflexivité sur le choix des indicateurs utilisés et sur les biais que les concepts usuels de pauvreté peuvent générer dans les résultats d'une analyse. Selon Baiz and Revillard (2022), la prise en considération de la subjectivité permise par ce travail réflexif est essentielle pour que l'évaluateur puisse aspirer à l'objectivité.

Comment mesurer la pauvreté une et multiple ? ¹⁵

Plus d'un siècle de travaux de recherche au carrefour de plusieurs disciplines ont décrit la pauvreté comme un phénomène aux multiples visages, si bien que la seule mesure monétaire relative de la pauvreté est souvent jugée trop partielle pour décrire un phénomène aussi complexe et multifacettes que la pauvreté (Herpin and Verger, 1998). Les chercheurs s'accordent généralement pour dire qu'il faut compléter une telle mesure par les dimensions de l'existence dans lesquelles les individus souffrent de privations qui ne peuvent pas être compensées par un flux de revenus. Mais lesquelles ? En pratique, il existe une multitude de possibilités. En effet, le choix des indicateurs est bien souvent pragmatique, qu'il repose sur la théorie (approche par les capacités), ou soit le fruit d'un consensus entre différents représentants politiques, administratifs ou encore associatifs (Accardo, 2020).

Une fois les dimensions identifiées, il s'agit de les quantifier. Se pose alors la question méthodologique de savoir quelle est la meilleure manière de mesurer cette pauvreté multidimensionnelle. Afin d'articuler les nouvelles informations transmises par les dimensions non monétaires avec celles fournies par la pauvreté

15. Ce sous-titre s'inspire directement du titre de l'article de Herpin and Verger (1998)

monétaire, on peut opter pour une juxtaposition des indicateurs, le calcul d'un équivalent monétaire, ou bien un indicateur agrégé de pauvreté multidimensionnelle.¹⁶ En recoupant les indicateurs synthétiques correspondant à chaque dimension, il apparaît rapidement que différents indices mesurent différentes réalités : ainsi, pauvreté d'existence, monétaire ou subjective sont distinctes (Lollivier and Verger, 1998) ; pauvreté monétaire et pauvreté en conditions de vie matérielles ne se recoupent que partiellement (Blasco, 2023). Chaque projecteur éclaire des facettes différentes de la pauvreté : c'est probablement l'argument le plus fort en faveur des approches multidimensionnelles. Une telle approche conduit généralement à l'élaboration d'un tableau de bord, qui réunit un faisceau d'informations apportées par chaque composante ou dimension dont on va observer a minima l'interrelation (corrélation, recoupement) et dont on va considérer l'incidence et l'intensité du taux de pauvreté isolément. Le caractère cumulatif des situations de pauvreté rend malaisée l'identification de la direction des causalités entre les différents symptômes de la pauvreté ; toutefois, l'observation de l'enchaînement temporel des formes de la pauvreté peut donner lieu au repérage de régularités et ainsi tenter de prévenir les situations risquées en amont (Lollivier and Verger, 2005). Quant aux indices agrégés, s'ils sont souvent décriés en raison de leur complexité et de leur caractère artificiel, ils complètent néanmoins l'analyse en proposant une photographie à l'instant t de l'étendue du cumul des privations subi par les individus d'une société via l'étude des distributions jointes des privations. Ainsi, chaque indice éclaire donc un aspect spécifique de la pauvreté qu'il convient de préciser à l'aune des objectifs que l'on se fixe, et pour lesquels il faut plusieurs instruments (Tinbergen, 1952).

Enfin, la question de l'unité statistique de base à privilégier — individu ou ménage ? — reste centrale dans la mise en œuvre des politiques publiques. Cette question met en lumière l'existence d'un hiatus méthodologique entre d'une part, la façon dont on identifie les pauvres, qui s'effectue au niveau du ménage, et d'autre part, la volonté de décrire la pauvreté par des caractéristiques individuelles qui n'apportent qu'une information limitée, devant être complétée par les caractéristiques du ménage d'appartenance. Si c'est surtout l'association de ces caractéristiques individuelles qui fait sens dans le cas des travailleurs pauvres (Ponthieux, 2009), l'utilisation du ménage comme unité statistique de base soulève également des difficultés spécifiques dans le cas du ciblage des prestations sociales sur les ménages à bas revenus. En effet, les couples hétérosexuels se spécialisent souvent au détriment du travail des femmes (Meurs et al., 2010). La déconjugalisation de l'AAH survenue en 2018¹⁷, est emblématique de ces questionnements en ce qu'elle soulève la question de l'autonomie et de la dignité pour les personnes handicapées aux faibles revenus. Cela montre une nouvelle fois que les questions méthodologiques du choix des indicateurs et des unités statistiques à prendre en compte ne sont pas purement techniques mais soulèvent d'importants enjeux de justice sociale.

16. Une voie intermédiaire est proposée par Gethin (2023) qui intègre les services publics à la construction des mesures de pauvreté monétaire, contribuant ainsi à réconcilier les approches monétaires et multidimensionnelles de la mesure des niveaux de vie dans la mesure où les services publics sont des déterminants majeurs des différences entre pays en matière de privation dans les domaines de la santé, de l'éducation et d'autres dimensions non monétaires de la qualité de vie. En outre, une étude récente de l'Insee quantifiant nombre de services publics en France montre que cette vision élargie du niveau de vie est associée à une réduction significative des inégalités de revenus (André et al., 2023).

17. qui a consisté à séparer le calcul de l'aide destinée à la personne handicapée des revenus de son conjoint. L'AAH est réduite si le conjoint du bénéficiaire gagne au-dessus d'un certain seuil, ce qui peut pénaliser les personnes handicapées mariées ou en couple.

Les éclairages apportés par cette thèse

Dans l'ensemble des travaux de cette thèse, je combine les approches objective et subjective de la pauvreté afin d'en tirer des éclairages nouveaux sur la question du choix du seuil de pauvreté, de ses déterminants ou encore sur le recoupement entre pauvreté monétaire et multidimensionnelle. Mon approche est relative et vise à identifier une population qui soit à part dans son appréciation de sa situation par rapport au reste de la société, ou dans ses pratiques ou le traitement qu'elle subit, en lien avec la définition de la pauvreté comme exclusion sociale et pas seulement comme synonyme de bas revenus. Plus généralement, je propose des réponses à des questions anciennes grâce à des données longitudinales individuelles dont la qualité ne cesse de s'améliorer, et qui incluent des variables nouvelles destinées à quantifier le vécu subjectif des personnes interrogées. Mon approche consiste à mobiliser un ensemble d'échelles destinées à mesurer le ressenti des individus — qu'il s'agisse de la satisfaction dans la vie, ou vis-à-vis de sa situation financière ou son logement, du sentiment d'exclusion sociale, ou encore de l'état de santé autoévalué — que je confronte à la définition objective de la pauvreté par le niveau de vie relativement au revenu médian. Les contributions empiriques qui en découlent reposent sur une méthodologie inductive et interdisciplinaire, en ce qu'elle emprunte à la fois aux outils de l'économie et de la sociologie.

Mes travaux se fondent sur l'étude descriptive conjointe du revenu et des perceptions des individus situés en bas de la distribution des revenus, de manière statique (transversale) et dynamique (longitudinale). Les analyses proposées portent généralement sur la France, à l'exception du chapitre 1 qui présente une étude comparative entre la France et d'autres pays similaires en termes de taux de pauvreté monétaire pour lesquels les données sont disponibles : Allemagne, Royaume-Uni et Australie. Dans les chapitres 1 et 3, je contribue à la littérature sur la pauvreté subjective en utilisant la variable du bien-être reporté par les individus pour questionner le niveau du seuil de pauvreté monétaire à partir du ressenti (chapitre 1) ou pour calibrer un indicateur de pauvreté multidimensionnelle à partir des préférences individuelles (chapitre 3). Dans les deux cas, je propose une manière alternative de dessiner les contours de la pauvreté, qu'elle soit comprise comme vulnérabilité économique au sens large (chapitre 1) ou comme cumul de différentes privations (chapitre 3). Je m'ancre ainsi dans la tradition de l'identification de la pauvreté (Sen, 1979) en présentant les caractéristiques des personnes identifiées pauvres par les différentes méthodes. Je discute la portée et les limites de chaque approche à l'aune des mesures existantes afin de les replacer dans un contexte de ce qui peut être considéré comme robuste et informatif du point de vue des pouvoirs publics. Dans le chapitre 2, j'adresse une réponse quantitative à un débat théorique qualitatif portant sur l'importance relative des déterminants du sentiment d'exclusion sociale en France, de manière à tester s'ils sont d'ordre objectif ou bien associés à la perception des aides sociales.

Les trois essais qui constituent cette thèse ont une visée à la fois heuristique, soucieuse de documenter rigoureusement le phénomène de pauvreté à partir du ressenti pour en approfondir la connaissance, et opérationnelle, en ce qu'ils proposent des pistes concrètes pour l'élaboration d'indicateurs destinés à servir les politiques publiques. En ce sens, l'approche adoptée n'est pas uniquement descriptive mais également normative, dans la mesure où elle préconise de compléter l'approche traditionnelle de la pauvreté par le niveau de revenu (ou une autre mesure de la richesse) par des dimensions non monétaires, afin de rendre

compte des inégalités au niveau des besoins qui s'ajoutent à la faiblesse des revenus et compromettent la capacité des individus à participer pleinement à la vie de la société. Plus généralement, cette thèse plaide pour un enrichissement des indicateurs actuels, en particulier la mise en place d'un double seuil de pauvreté pour distinguer la grande pauvreté de la vulnérabilité économique d'une part, et d'un indicateur multidimensionnel (tableau de bord ou indicateur agrégé) pour permettre d'identifier le cumul des privations d'autre part. Elle soutient que la discussion sur le choix des indicateurs de pauvreté souhaitables gagnerait à être discutée plus largement à l'aune des concepts de justice sociale qui la sous-tendent, et à être enrichie de l'expérience vécue et partagée des personnes concernées.

Chapitre 1 : Who Feels Poor ? Transitions into Poverty and Subjective Well-Being

« It is sometimes argued that Mr. Micawber was right after all, and that, if we think about it hard enough and do the supporting research, we will find some income level, or perhaps some combination of income and other things—an index of well-being—where there is a real observable jump in behavior. For example, for children at school, having a pair of shoes might make the difference between being accepted or being treated as a pariah, just as the possession of a particular brand of sneaker might have a similar effect in a better-off country. Yet decades of research into people's spending patterns and income levels has always failed to find any clear discontinuity in the data, a point at which behavior suddenly changes that we might use as the cutoff for a poverty line. »

Angus Deaton, « Measuring Poverty » in Banerjee et al. (1999)

Dans le chapitre 1, je prends au sérieux l'idée exprimée par Deaton, commune à de nombreux chercheurs s'inscrivant dans les discussions sur les seuils de pauvreté, de l'existence d'une discontinuité dans le bas de l'échelle, une fracture en-deçà de laquelle les phénomènes vécus seraient différents de ce qu'ils seraient au-delà. Pour cela, je propose une méthode originale qui combine le niveau de bien-être reporté par les individus et leur niveau de revenu. A partir de données longitudinales qui renseignent sur les trajectoires monétaires des individus ainsi que l'évolution conjointe de leur satisfaction dans la vie, je montre que toutes les chutes de revenu n'ont pas la même importance pour les individus. En effet, je met en lumière une discontinuité empirique, c'est-à-dire un endroit de la distribution où les individus ressentent une baisse de bien-être plus marquée. Pour chaque pays, j'identifie cet endroit précis de la distribution des revenus, qui se situe au-dessus du niveau habituel de la pauvreté monétaire — environ à 80 % pour la France et l'Australie, 70 % pour le Royaume-Uni et l'Allemagne — et n'est expliqué ni par le montant relatif de la perte de revenus, ni par des changements de composition du ménage, ni par des événements de vie, ni par l'interaction avec le système de prestations sociales. J'assimile ce seuil de revenu relatif où la baisse de bien-être est la plus significative à une zone de vulnérabilité économique qui pourrait délimiter le passage des classes moyennes aux classes populaires.

Chapitre 2 : L'exclusion sociale est-elle réductible à la situation d'assistance ? Quantifier les déterminants du sentiment d'exclusion sociale en France

Dans le chapitre 2, la pauvreté est abordée sous l'angle du sentiment d'exclusion sociale, qui reflète la perception de la capacité à mener une vie décente dans une société donnée, ou au contraire à être privé de l'accès à ses sphères légitimes. Quantifier l'importance relative des déterminants de l'exclusion sociale permet ainsi d'identifier quels aspects de la vie digne comptent le plus, ou en l'occurrence manquent le plus pour les individus interrogés. Ainsi, c'est pour partie l'absence de consensus sur ces besoins fondamentaux à remplir qui a conduit à adopter une approche institutionnelle de la pauvreté (Simmel, 1998; Paugam, 2020), selon laquelle les pauvres sont avant tout ceux que la société désigne comme tels. Cette vision relationnelle de l'exclusion la définit comme un sentiment subjectif qui s'expliquerait par l'émergence d'une relation d'assignation à une position sociale illégitime, dont l'archétype dans les sociétés contemporaines est celle de l'assisté dans le champ des politiques d'assistance, raisonnement qui aboutit à la conclusion paradoxale que l'assistance crée elle-même l'exclusion. Castel (1995) estime au contraire que l'exclusion sociale naît d'un manque d'intégration aux marchés du travail et aux marchés des biens et services, qui déterminent l'intégration sociale légitime au sein des sociétés contemporaines.

Cet article contribue au débat relatif aux mécanismes permettant de rendre compte du sentiment d'exclusion sociale conduit dans les colonnes de la *Revue française de sociologie* (Duvoux and Papuchon, 2018; Paugam, 2020; Lahieyte, 2020) en proposant de quantifier empiriquement l'importance relative des déterminants identifiés par la littérature sociologique. Notre démarche, qui consiste à utiliser une échelle du sentiment d'intégration à la société en tant que variable dépendante de l'analyse, est pionnière, puisqu'elle est la première étude empirique à explorer la corrélation entre le sentiment d'exclusion sociale et ses principaux déterminants : l'accès au marché du travail, la privation matérielle et la perception de transferts sociaux. En nous fondant sur le volet 2018 de l'enquête SRCV de l'Insee, nous montrons que l'assistance, telle que définie par la perception de transferts sociaux par les ménages, n'a pas d'effet additionnel sur le sentiment d'exclusion, une fois l'éloignement du marché du travail et la pauvreté matérielle. En cela, nos résultats contribuent à éclairer le débat présent dans la littérature en rejetant l'hypothèse selon laquelle l'émergence du sentiment de pauvreté serait avant tout imputable à la situation d'assistance qui unit l'individu à la société. La mise en évidence empirique de déterminants multidimensionnels qui diffèrent de ceux relatifs à la situation d'assistance n'a cependant pas pour objectif d'invalider le cadre analytique relationnel proposée par Paugam (2020), qui comporte de nombreux avantages théoriques, dont celui d'être rigoureux et particulièrement flexible.

Chapitre 3 : Multidimensional Poverty Measurement in France : New Insights

Ce chapitre représente une contribution empirique et méthodologique à la littérature sur la mesure de la pauvreté multidimensionnelle. A la suite des travaux de Sen sur les capacités, qui reflètent un manque de ressources ou de dotations dans divers aspects de la réalisation humaine, tels que la santé, l'éducation, l'environnement et la sociabilité, qui ne peuvent être réduits au seul revenu, je me pose la question toujours en débat de savoir comment refléter cette multidimensionnalité dans la mesure de la pauvreté

en France. Cette étude contribue à la littérature à deux égards : d'une part, en choisissant de quantifier les dimensions non monétaires jugées essentielles par les personnes ayant une expérience vécue de la pauvreté du rapport d'ATD Quart Monde et Caritas en France ; d'autre part, elle représente la première application de la méthode de bien-être social, qui identifie les préférences individuelles pour calibrer un indicateur agrégé proposée dans ?. L'approche dominante dans la construction des indicateurs agrégés est la méthode comptable conçue par Alkire (2011), dans laquelle les paramètres restent la responsabilité des chercheurs, tandis que ces choix peuvent avoir des implications significatives pour la mesure de la pauvreté.

A partir des données disponibles dans l'enquête SRCV de l'Insee, nous proposons un éventail d'indicateurs synthétiques recouvrant les dimensions non monétaires traditionnelles de la pauvreté ainsi que la dimension de l'isolement social mise en évidence par la recherche participative. Nous montrons que ces indicateurs ne se recoupent que partiellement et représentent donc autant de projecteurs sur les différentes facettes de la pauvreté. Nous documentons l'évolution de ces indices pour la période récente en France en montrant que la pauvreté a indéniablement augmenté au cours de cette période récente. Nous construisons également deux indicateurs agrégés de pauvreté qui diffèrent par le système de poids relatifs associés aux dimensions, et nous comparons les caractéristiques des populations identifiées comme pauvres. Nos résultats montrent que la calibration des poids induite par l'identification des préférences isole une fraction sensiblement différente de la population par rapport à un système de poids égaux, avec une emphase mise sur l'isolement social, qui est la variable pesant le plus sur la satisfaction reportée, et dans une moindre mesure la santé. Dans l'ensemble nos résultats montrent l'intérêt d'adopter des indicateurs multidimensionnels de la pauvreté en plus de la mesure monétaire habituelle afin d'enrichir le regard habituellement porté sur ce phénomène.

Introduction

This dissertation, titled "Measuring Poverty : From Income to Perception," seeks to deepen the understanding of the relationship between objective and subjective poverty. The first goal is to enhance comprehension of the phenomenon, while the second is to propose complementary measures to the purely monetary approach to poverty. The overarching question throughout these three chapters is : what does individuals' perception of their situation reveal about those at the lower end of the income distribution ? Through this thesis, I present three methodological and empirical studies that draw on tools from both economics and sociology, each highlighting in its own way the complementarity of these approaches.

The general introduction is structured into three main sections. First, I revisit traditional definitions of monetary and material poverty, and I present the most commonly used statistical units and data sources. I then discuss the contributions and limitations of the subjective approach to understanding and measuring poverty, before addressing the methodological and conceptual challenges specific to poverty as a common subject of study in social sciences. Lastly, I position the uniqueness of my approach within the academic literature and summarize each chapter.

Common Measures of Poverty

Definitions and Measures

There are multiple ways to define poverty, reflecting the specific historical contexts in which technical and social conventions have emerged. The earliest measures, dating from the late 19th century to the early 20th century, favored a consumption or budget-based approach, attempting to establish a minimum threshold to meet essential needs (food, clothing, housing, etc.). The first surveys using this approach were conducted locally, primarily in England (Booth, 1902; Rowntree, 1901) and the United States. Researchers focused on the cost and content of a minimum basket of basic goods necessary to make ends meet and live with dignity. In this sense, this represents an absolute approach to poverty, based on the ability to meet a certain number of needs considered vital—though the definition of these needs may vary from one society to another, and from one era to another. Today, the absolute approach to poverty is favored in most developing countries, for which the World Bank uses the absolute monetary threshold of \$2.15 per day. The United States is one of the few countries where poverty thresholds continue to be calculated based on consumption, using typical baskets that vary by age and family structure.

The absolute conception of monetary poverty differs from the relative approach that prevails in most developed countries. The Laeken indicator, which measures monetary poverty at 60% of the median income, is common to all European countries, whose statistical institutes have adopted a harmonized measure of poverty, driven by expert reports highlighting the importance of making temporal and cross-country comparisons (Canberra Group, 2001). The relative monetary poverty indicator at 60% of the

median income is an inequality measure as it indicates a gap relative to the group within a given society. As a result, a decline in the population's median income can mechanically reduce poverty.

The living conditions approach complements the Laeken indicator with the material and social deprivation indicator, which is also harmonized at the European level. The living conditions approach was popularized by the famous work of sociologist Peter Townsend on poverty in Britain (Townsend, 1979), emphasizing the living conditions and deprivations experienced by individuals that exclude them from the dominant lifestyle of a society. In Europe, the Material and Social Deprivation (MSD) indicator identifies 13 types of deprivations covering consumption restrictions, payment arrears, and housing conditions, all of which are considered to hinder full participation in civic life. This conception of poverty is similar to the absolute definition based on consumption but differs due to its subjective nature, as it is self-reported : for instance, a person who has lost hope of obtaining a good might not express deprivation.

In recent years, the well-being approach reflects a shift towards a more holistic understanding of poverty, recognizing that poverty goes beyond mere income insufficiency to include multidimensional and contextual aspects (such as health, education, housing, etc.). The pioneering work of Amartya Sen introduced the concept of poverty as a deprivation of capabilities, i.e., the ability of individuals to live the life they have reason to value (Sen, 1985, 1990, 1999, 2008). This approach led to the development of the Human Development Index (HDI) by the United Nations Development Programme (UNDP), which includes indicators of life expectancy, education, and income. Following the Stiglitz Commission report (2009), which recommended using alternative well-being indicators to GDP, many organizations have developed multidimensional poverty indicators.

Statistical Conventions Associated with Measuring Monetary Poverty

The measurement of monetary poverty relies on numerous conventions, aimed less at reflecting an underlying reality and more at enabling robust comparisons over time and between countries. In the context of relative monetary poverty, the threshold is set at 60% of the median household income. This threshold aims to identify the fraction of the population whose income is below what is considered an acceptable standard of living in a given society, a level that was long set at 50% of the median. This measurement seeks to count the number of poor individuals, serving as a poverty incidence rate, or *headcount ratio*, which reflects the number of households with a standard of living below the threshold. This indicator can be supplemented by a measure of poverty intensity, calculating the average gap between household income and the threshold, known as the *income poverty gap*.¹⁸

Household standard of living is defined by the ratio of disposable income to the number of consumption units. Disposable income aims to measure the total resources actually available to the household and includes wages, pensions, and social benefits, net of direct taxes. This definition of income excludes other types of resources that are critical to assessing households' standard of living. In addition to wealth income and self-employment income, non-monetary aspects of income are excluded, such as public goods and services (education, health, etc.), housing—either in the form of imputed rents that homeowners

18. There are many alternatives to these two inequality indicators : this is the subject of the research tradition on "aggregation," which seeks to determine indicators that meet desirable mathematical properties (Atkinson, 1987), as opposed to the "identification" tradition, which focuses primarily on defining the poverty threshold (Sen, 1979).

implicitly pay themselves or lower rents for households benefiting from social housing—and finally, intra- and inter-household transfers.¹⁹ The number of consumption units in the household, which serves as the denominator of the standard-of-living ratio, reflects the household's composition as translated by an equivalence scale. The purpose of such a scale is to compare the standard of living of households of different sizes, accounting for the economies of scale they achieve, such as shared housing costs. The most widely used is the modified OECD equivalence scale, which assigns a weight of 1 to the household's first adult, 0.5 to each additional adult, while each child under the age of 14 receives a weight of 0.3.²⁰

Regardless of the values taken by this equivalence scale, the conventional measurement of standard of living, and thus poverty, rests on the assumption that household resources are fully pooled. As such, it is assumed that all members of a household have the same standard of living. However, while microeconomic theory has often modeled the household simplistically as a maximizing *homo œconomicus*, whose statistical counterpart is the "reference person" of the household in INSEE surveys (Ponthieux, 2009), household decision-making is more complex and results from distinct individual behaviors. This has been demonstrated by recent studies that have attempted to open the black box of the household to highlight the distribution of resources among its members. (Ponthieux, 2012) found that fewer than two-thirds of couples report pooling all their resources. These figures vary across European countries, as intra-household distribution is influenced by power dynamics, cultural norms, and individual preferences, often leading to gendered differences in heterosexual couples (Roy, 2006; Commission européenne and Ponthieux, 2013). Additionally, Martin and Périvier (2018) highlighted that the poverty of single-parent families and non-residential parents living alone is often underestimated, as they benefit from fewer economies of scale than other household configurations. Finally, these equivalence scales represent an average and are indifferent to the household's income level and needs, which may vary based on other criteria beyond household size or members' age, such as life cycle stages or associated disabilities.

Another key criterion concerns the time frame for measuring income : what reference period should be considered ? Generally, the sum of a household's annual income is used, as this period is long enough to reflect the household's permanent income, while the income observed at the time of the survey could be an outlier.²¹ Many studies have emphasized the need to account for the persistence of poverty (Stevens, 1999; Maurin and Chambaz, 1996-1; Beck et al., 2014) and the state-dependence phenomenon, where a household is more likely to remain in poverty the following year if it is already poor. In France, while 20% of people who are poor one year exit poverty for at least the next three years, 40% remain persistently below the poverty threshold during that period (Albouy and Delmas, 2020). In a recent study, Blavier (2023) documented poverty trajectories using SRCV data in France, showing that no less than 30% of the population experiences at least one episode of monetary poverty over the nine years of the survey. However, poverty is also characterized by greater income volatility from month to month, underscoring

19. Particularly, the exclusion of intra-household transfers can obscure the fact that parents may sacrifice part of their standard of living for their children, hence the need to calculate separate indicators for child poverty (Bradshaw et al., 2012; Duvoux, 2014; Castagna and Pirani, 2014).

20. See the INSEE report led by Germain et al. (2021) for a comparison of poverty rates according to different equivalence scales.

21. Lollivier and Verger (2005) thus recommended assessing monetary poverty over a period of several years to minimize measurement errors associated with high income volatility in survey data. With the matching of survey data to administrative data in SRCV, this issue is less pronounced.

the need for infra-annual measures, which are rarely available.

Data Sources

There are numerous datasets on household income. In France, poverty rate estimates are based on the *Enquête sur les Revenus Fiscaux et Sociaux* (ERFS), the reference survey on income, which incorporates tax returns for all household members from the census. The *Statistiques sur les Ressources et les Conditions de Vie* (SRCV) survey is also a key survey for measuring poverty and living conditions. Published annually since 2004, it is the French version of the harmonized Eurostat-SILC survey, facilitating international comparisons across Europe. Since 2010, the survey has been matched with tax data, ensuring high reliability regarding income data.²² The statistical unit is the individual-panel, which is followed through annual reinterviews even in the case of household changes. Respondents are required to participate for four consecutive years, per Eurostat-SILC requirements, and up to nine consecutive years, a unique feature of the French survey. The French data, like certain national surveys, contain more variables than SILC—especially subjective questions that are asked annually, rather than only in some years due to rotating modules.²³

The SRCV survey focuses on the resources and living conditions of the general population, offering numerous advantages, combining the reliability of administrative data with the richness of survey questions. However, its sampling method, focused on ordinary housing, does not capture certain particularly vulnerable segments of the population, some of whom continue to evade public statistical radar. The survey's out-of-scope population includes all individuals living in "non-ordinary" housing, such as young worker hostels, nursing homes, or prisons. Homeless individuals are also excluded from the SRCV but are covered by a specific survey conducted jointly by INSEE and DREES, which is less frequent due to the methodological difficulties of studying this population. Student households are also excluded from SRCV, as their standard of living is particularly difficult to assess due to possible parental transfers, which are not captured in the statistics, except in the *Enquête Nationale sur les Ressources des Jeunes* (ENRJ), last conducted in 2014. Finally, the survey only samples individuals with a primary residence in mainland France, a limitation for poverty measurement since over a quarter of residents in overseas departments and territories fall within the lowest income decile (Germain et al., 2021). It is also worth noting that while the longitudinal nature of the data allows for the study of poverty trajectories and persistence, the survey suffers from significant attrition, particularly among poor or vulnerable individuals, and especially the young. For all these reasons, the following analyses will necessarily focus on households with relatively low resources that maintain some social integration, encompassing households at risk of marginalization or facing temporary difficulties.

22. Nevertheless, poverty and inequality indicators calculated from SRCV or ERFS can show notable discrepancies.

23. I primarily use the SRCV survey, starting with the 2010 dataset, in the three chapters of my thesis. In Chapter 1, I use national data from the UK, Germany, and Australia, which are the only surveys that include subjective questions in panel data.

Contributions of the Subjective Approach to Measuring Poverty

From Income to Perception

According to Accardo (2020), economists' interest in individuals' perceptions of their situation dates back to the mid-1990s, with the publication of Easterlin (1995), which marks a turning point. According to the author, following the influence of behavioral economics, which questioned the canonical model of the *homo œconomicus*, researchers in economics became more inclined to reason based on what individuals say about their situation, and not merely on the observation of what they do.

The link between income and perception, or between income and reported well-being (understood in the microeconomic sense of utility), was, however, documented earlier by the same author and his famous paradox, according to which, in the long term, an increase in a country's average income does not necessarily lead to an increase in the average happiness of its citizens (Easterlin, 1974). In other words, the relationship between income and well-being is concave.²⁴ If an increase in income does not always translate into a proportional rise in well-being, then focusing solely on income risks missing significant aspects of human well-being. The paradox also highlights that perceptions of well-being often depend more on social comparisons than on absolute income. This underscores the need to consider both the objective and subjective dimensions of poverty in public policies and socio-economic studies.

Most subsequent studies have approximated individual well-being through a life satisfaction scale.²⁵ The satisfaction question (known as the Cantril ladder, after Cantril (1965)) is standardized in most surveys and typically features 11 rungs numbered from 0 ("not at all satisfied") to 10 ("completely satisfied"), though some wording differences exist between countries. These studies generally find that an individual's life satisfaction depends more on the relative level of their income rather than its absolute level (Clark and Oswald, 1996; Blanchflower and Oswald, 2004; Ferrer-i Carbonell, 2005; Luttmer, 2005; Stevenson and Wolfers, 2008; Clark and Senik, 2010). The average income in the person's reference social group serves as a natural comparison point for their own income, as demonstrated by prospect theory (Tversky and Kahneman, 1991). Duesenberry (1949), in his foundational study on individual consumption and saving behavior, had already postulated that individuals' satisfaction depends more on their relative income compared to others than on their absolute income.

This finding of relative satisfaction leads to questioning the purely subjective approach to poverty due to the phenomenon of adaptation. In a famous passage, Sen (1999) discusses the example of the "happy slave" : this individual, although living in conditions of oppression and deprivation, might report being satisfied or happy due to adaptation to their situation or a lack of awareness of a better life.

« A person's deprivation in terms of income, or resources generally, may be directly linked to the lack of adequate means to lead a minimally acceptable life. The fact that the person may be resigned to this fate, perhaps even deriving some cheer from acceptance (as in the phenomenon sometimes called 'happy slave'), does not alter the legitimacy of the claims of

24. Germain (2024) empirically identifies the level of the satiation point in several countries.

25. There is another way to measure subjective well-being in surveys, which focuses more on emotional aspects through questions on affects : joy, sorrow, irritation, etc. The satisfaction question is more general and asks respondents about their overall life.

these deprivations on social concern and action. »

Amartya Sen, *Development as Freedom* (1999)

According to Sen, adhering to such a discourse would mean accepting or ignoring injustices and deprivations. The adaptation effect, widely illustrated in the literature, has nonetheless led to qualifying this observation, as individuals adapt better to income increases than to decreases (Burchardt, 2005). In the specific case of monetary poverty, D'Ambrosio et al. (2016) showed that entering poverty, defined at 60% of the median income, results in an immediate and persistent decline in life satisfaction, with no signs of adaptation over time. These results suggest that poverty has a lasting negative effect on individuals' subjective well-being, contradicting the idea that individuals could adapt to harsher living conditions over time.

Subjective Poverty

Beyond the link between income and well-being, which is informative in many respects, the consideration of individuals' subjectivity has led to studies that have used people's opinions about their financial situation to infer poverty lines. Research conducted by economists from the Leyden School starting in the 1970s, particularly van Praag and Hagenaaars (1979), sought to approximate the utility levels attained by households of different compositions through the following questions :

— *Income Evaluation Question* (IEQ)²⁶ : « Whether you feel an income is good or not so good depends on your personal circumstances and expectations. In your case would you call your net household income :

1. Very low income if it would equal ... (amount)
2. Low income if it would equal ... (amount)
3. Still insufficient income if it would equal ... (amount)
4. Just sufficient income if it would equal ... (amount)
5. Good income if it would equal ... (amount)
6. Very good income if it would equal ... (amount) »

— *Minimum Income Question* (MIQ)²⁷ : « What income level do you personally consider to be absolutely minimal? That is to say that with less you could not make ends meet. »

Based on these questions, researchers from the Leyden School construct different subjective poverty lines, described and compared in Flik and van Praag (1991). Thus, the *Leyden Poverty Line* (LPL) is based on the IEQ and involves establishing a Welfare Function of Income (WFI) from the relationship between household income and the corresponding numerical evaluation (Figure 1), described by a log-normal distribution function with individual need parameters estimated by the ordinary least squares (OLS) method. Households are considered poor if their after-tax and benefit-adjusted family income is

26. This question was developed by van Praag (1968) and further illustrated in van Praag (1971). The question was later simplified as follows : "Considering your household's monthly resources, would you say that they allow you to live : very difficultly, difficultly, somewhat difficultly, somewhat easily, easily, or very easily?"

27. This question can be considered a specific case of the previous question. It is formulated and tested in Hagenaaars and van Praag (1985).

below the income level that corresponds to a specific level of utility or welfare measured by the utility function. Gardes and Loisy (1997) exploit the MIQ using French data and show that responses to the question vary significantly depending on the household's position on the income scale : while both the least and most affluent households tend to evaluate subsistence needs, middle-class households are more likely to express a desire for an improvement in living standards through their responses to this question.

Moreover, researchers generally agree that subjective perceptions of poverty can significantly diverge from objective measures. Thus, some individuals may consider themselves poor even if they are not according to standard economic criteria, and vice versa. The most obvious way to observe this is by comparing respondents' income to their sense of poverty through a direct question. This is precisely what Duvoux and Papuchon (2018) demonstrated using a question about the risk of poverty (Figure 2). Besides the observation that subjective poverty, defined by the feeling of poverty, and monetary poverty only partially overlap, the study emphasizes the dynamic dimension of subjective poverty, which is closely linked to individuals' social trajectories, both past, through intergenerational mobility and the feeling of social downgrading (Maurin, 2009), but also expected, through their outlook on the future. They particularly show the link between the feeling of poverty and pessimism about the future : the ability to project oneself into the future appears to be a privilege of the upper classes and can become a heuristic tool for assessing social hierarchy (Duvoux, 2023).

What Does the Subjective Approach to Poverty Teach Us ?

The main contribution of analyses that anchor poverty measures to subjective well-being is to challenge the usual conventions of poverty and to minimize the arbitrariness associated with the choices made by statisticians beforehand.²⁸ On the one hand, they can lead to a redefinition of the poverty thresholds commonly used. This is particularly the case for the work of the Leyden School economists, who derive a poverty threshold defined as the income level at which a critical level of well-being is reached.²⁹ On the other hand, subjective data can highlight the limitations of conventional equivalence scales. For instance, van Praag and Kapteyn (1976) proposed a reflection on subjectively constructed equivalence scales, as objective approaches are conventional and do not take into account changes in household preferences when household size varies. Their method relies on household perceptions via the opinion variables described earlier. According to Martin (2017), who conducted a study using French data, the subjective approach does not allow for the robust identification of a single equivalence scale, but rather provides an indication of a "range of possibilities." Another application of subjective data is to calibrate a composite well-being index using the regression coefficients of subjective well-being as weights.³⁰ The collection of subjective preferences serves as an interesting tool to avoid the pitfalls of ethnocentrism (when the observer mistakenly assumes the universality of their point of view) and paternalism (when the decision-maker imposes their point of view on others for their own good) by respecting the needs and values of the people concerned (Fleurbaey et al., 1998). The identification of individual preferences

28. See Ravallion (2012) for a detailed overview of the contributions and limitations of the subjective approach to poverty measurement.

29. Another approach is to regress self-assessed well-being on income normalized by the poverty threshold, as in Ravallion and Lokshin (2000). The first chapter of this thesis also falls within this literature.

30. This method is used in the third chapter of this manuscript to calibrate a multidimensional poverty index in France.

can be done through the observation of individuals' choices (revealed preference method), but this can only apply to dimensions for which individuals make real choices. A second possibility is to simply ask the respondent about the trade-offs between goods (contingent evaluation method, Fleurbaey et al. ask respondents to indicate a point on the indifference curve in the income-health space). However, this so-called stated-preference procedure is demanding for both individuals and statistical institutes, which do not typically ask these types of questions. Finally, preferences can be estimated indirectly from satisfaction regressions. This latter approach is favored by Decancq et al. (2019b) to calibrate a multidimensional poverty indicator. Their approach does not aim to monetize the non-monetary dimensions of poverty but to integrate them as goods between which an individual would have to choose, within the theoretical framework of utility curves and indifference maps. However, these approaches rely on implicit assumptions that are difficult to test, particularly the assumption that respondents' preferences are consistent with their responses on the satisfaction question.³¹

While subjective data can inform poverty measurement in several ways, analyses based on individuals' perceptions of their situation raise significant challenges, which have been well-documented in the literature. Aside from the adaptation phenomenon mentioned earlier, which can lead an individual to overestimate their standard of living, as noted by Sen (2008), or conversely, to underestimate it by comparison with a higher reference group, respondents' declarations are sensitive to context, life events, and their perception of the future (see Accardo 2020). Satisfaction scales, particularly Cantril's, have been criticized for the vagueness of the question, which does not capture the heterogeneity of what respondents consider in their assessment (see Ravallion (2012) and Accardo (2020) for a review of criticisms of these scales). However, the use of longitudinal data can overcome some of the obstacles related to the use of opinion variables to measure utility levels (Lollivier and Verger, 2005). Finally, the use of subjective data should not obscure the fact that most choices related to indicators remain, *in fine*, in the hands of those who design these measures, if only through the phrasing of survey questions, or the selection of non-monetary dimensions of poverty to include in an indicator, or the choice of the minimum utility level, as reflected in the poverty threshold used in the work of Leyden economists, for example. Overall, it seems that the subjective approach is not so much intended to replace the objective approach (typically based on income) as to complement it. It provides a range of possibilities and offers confidence intervals that can help anchor choices in a broader democratic consensus, provided that preferences are properly identified. The advantage is that it does not rely on conventional choices made beforehand by economists or statisticians, who might overlook the preferences of the people concerned.

Methodological and Conceptual Challenges

What Perspective and Conceptual Framework to Analyze Poverty?

The study of poverty lies at the intersection of several social science disciplines, each offering a specific perspective on the subject, although interdisciplinary boundaries are sometimes porous. Sociologists are typically the first to be consulted when it comes to defining what a society considers to be poverty.

31. These assumptions are listed and discussed in more detail in Chapter 3.

Sociologists and anthropologists have been less concerned with measuring poverty than with describing its forms by constructing typical cases and identifying regularities (Herpin and Verger, 1998). While the descriptive study of processes and determinants is common to research in both economics and quantitative sociology (Fall et al., 2010; Beck et al., 2014; Blavier, 2023), economics has taken on the task of measuring poverty by adopting indicators designed to provide conceptual tools for guiding and assessing public policy in this area. This is particularly true of normative economics, which must be distinguished from positive economics, which addresses the issue of poverty only indirectly. The latter has primarily focused on the analysis of inequalities (Piketty, 1997) or the role of institutional models in combating poverty, which is also the subject of research in political science (Chevalier and Grobon, 2019). Positive economics also tackles poverty from a decision-making perspective, a field that has recently seen a revival within behavioral economics, thanks to contributions from psychology and cognitive sciences. The question of the economic rationality of the poor has evolved significantly but remains debated : while poor individuals were long considered to be economically "short-sighted" (Herpin and Verger, 1998), behavioral economics research has highlighted the cognitive obstacles associated with scarcity, which extends beyond the issue of poverty and would lead to "a reduction in IQ and self-control" (Mullainathan and Shafir, 2013). In the case of poverty, the mental space available to the individuals concerned—the "mental bandwidth"—would be taxed by the predominance and urgency of material concerns, preventing them from behaving in accordance with the rational, utility-maximizing model. Sociological research, on the other hand, supports the idea that managing a budget during times of scarcity is unique and aims to highlight a form of rationality that differs from the microeconomic rationality of the neoclassical model (Colombi, 2020).

Moreover, statisticians concerned with which poverty indicators to use can draw on the contributions of normative economics, particularly the work of Sen on capabilities, which emphasized the variability of these indicators over time and across societies (Sen, 1985, 1990, 1992, 1999). Fleurbaey et al. (1998) show the links between the developments on poverty led by normative economics and economic philosophies of justice, which can provide justifications for the use of standard statistical tools for measuring poverty. These tools are not merely statistical conventions but are embedded in a context. For instance, the dominance of the relative approach, which considers the poor as those who have fewer resources than others, can be linked to the optimism of the post-war economic boom, a period when the focus was less on eradicating absolute material poverty—seen as almost anachronistic—than on enabling the least advantaged to catch up with the general living standards of the population. The emergence of the concept of exclusion can also be explained by the economic and political context : in the 1970s, the notion of social exclusion reflected the relative failure of this optimistic vision of continuous social progress. Since then, the concept has gradually become a central issue in public policies aimed at "fighting exclusion." The goal of combating social exclusion, with the introduction of the first social minimums, was quickly accompanied by a desire to reintegrate people through employment, with the introduction of incentive schemes to reduce the perceived "perverse" effects of unconditional transfers to households, in a context of fear of a "poverty trap." Econometric evaluations of the Minimum Insertion Income (RMI) and its successor, the Active Solidarity Income (RSA), have focused primarily on the gains associated with returning to employment (Gurgand and Margolis, 2008; Bargain and Doorley, 2011; Bargain and Vicard,

2014). Yet the objective of these social benefits, like that of the Employment Bonus introduced in 2016, is twofold : to facilitate a return to work and to fight poverty, which contradicts the rule of one instrument per objective (Tinbergen, 1952). Econometric evaluations of public policies aimed at combating poverty are therefore conducted within a normative framework that needs to be clarified when addressing the question of the "right" poverty indicator (Allègre, 2024). Indeed, the methodological question of "how" to measure poverty cannot be answered without considering how the problem is framed and what concepts of social justice underlie it. In this sense, the positive approach to poverty, which aims to inform the choice of indicators by highlighting the different groups they affect, is inseparable from normative questions. The examination of indicators can thus be undertaken in light of the dominant paradigm at work in a given society and era, a paradigm that qualitative approaches focusing on lived experiences of poverty may challenge.

Complementarity of Quantitative and Qualitative Approaches

Historically, economic literature has used mathematical and statistical tools to identify poverty, construct, and calibrate poverty indicators, but it also borrows from other disciplinary traditions and methodologies by gradually broadening its field of analysis. This is particularly true for recent work on multidimensional poverty, which draws on participatory research contributions, thereby renewing the question of measurement by adopting a concept of well-being based on the qualitative aspect of the lived experiences of people in poverty. The contributions of participatory research are numerous and concern the choice of poverty dimensions and their relative importance, as well as the proper formulation of survey questions, which are prerequisites for constructing any indicator that highlights the non-monetary aspects of poverty. For instance, participatory research conducted in six countries between 2016 and 2019 by Oxford University and the ATD Fourth World organization identified the hidden dimensions of poverty (Bray et al., 2019). The “Crossing of Knowledge” method implemented in this study provided an opportunity for dialogue between researchers and people experiencing poverty to try to uncover the most characteristic dimensions of poverty based on their lived experiences. The goal of such research is primarily heuristic, but participatory research also has an operational interest when it explicitly leads to the construction of an aggregate indicator, with the dimensions of poverty and their relative weights determined by a panel of concerned individuals (Pogge and Wisor, 2016).

Qualitative analyses complement quantitative ones : while the former are characterized by the observation of individual cases, the latter aim to identify stable and regular relationships (Gondard-Delcroix, 2003). Although public authorities need comprehensive measures to effectively respond to the needs of populations identified as poor and to guide social policies, political decision-making benefits from being informed by quantitative evaluations that take into account the particularities of the context in which these public policies are implemented. This complementarity between quantitative and qualitative approaches in the field of evaluation manifests at different levels. Where quantitative methods formulate and test a hypothesis, qualitative methods question the relevance of the hypothesis in light of the context and provide insights to evaluators on control variables to integrate into the analysis and on how the targeted population perceives the public intervention, which may help prevent potential selection biases (Baïz and

Revillard, 2022). For example, in the case of public transfer policies targeting the most disadvantaged populations, econometric evaluations typically conclude that incentive schemes such as the RMI or RSA in France have had no or very modest effects on the return to employment for the individuals concerned, often without uncovering the underlying mechanisms. In the United States, a recent randomized controlled trial conducted by Vivalt et al. (2024) showed that providing a guaranteed minimum income did not lead to an increase in employment rates among the target population, nor did it improve the quality of the jobs held. So, how can we explain the limited impact of social policies in terms of employment recovery? If cash transfers have no effect, it is likely because the nature of the obstacles to returning to work is not financial, meaning these obstacles cannot be overcome by an income stream, which directly relates to the idea that there are non-monetary dimensions of poverty. It is often argued that obstacles to returning to work differ according to the population groups considered: long-term unemployed individuals, single-parent families, or young people not in employment, education, or training (NEETs) tend to face compounded difficulties and are particularly distanced from employment. In the "Territoires Zéro Chômeur de Longue Durée" (TZCLD) experiment, both quantitative and qualitative approaches were used to identify barriers to employment for people long deprived of work (Territoires Zéro Chômeur de Longue Durée, 2021). Qualitative methods provide insights into the specific challenges faced by distinct populations through phenomena such as the poverty trap, the accumulation of disadvantages, dependence on welfare institutions, and the stigmatization and exclusion that these may entail (Méda, 1991; Paugam, 2009). In the case of poverty, qualitative approaches thus foster broader reflexivity on the choice of indicators used and on the biases that standard poverty concepts may generate in analysis results. According to Baiz and Revillard (2022), considering subjectivity through this reflexive process is essential for evaluators aiming for objectivity.

How to Measure Poverty as Both One and Multiple? ³²

More than a century of research at the crossroads of several disciplines has described poverty as a phenomenon with many faces, to the point where the single relative monetary measure of poverty is often considered too partial to describe such a complex and multifaceted phenomenon as poverty (Herpin and Verger, 1998). Researchers generally agree that such a measure should be complemented by the dimensions of life in which individuals suffer deprivations that cannot be compensated by an income stream. But which dimensions? In practice, there are many possibilities. Indeed, the choice of indicators is often pragmatic, whether it is based on theory (capability approach) or is the result of a consensus among different political, administrative, or even associative representatives (Accardo, 2020).

Once the dimensions are identified, they must be quantified. This raises the methodological question of how best to measure this multidimensional poverty. To articulate the new information provided by non-monetary dimensions with those supplied by monetary poverty, one may choose to juxtapose indicators, calculate a monetary equivalent, or construct an aggregate multidimensional poverty indicator. ³³ By

³². This subtitle is directly inspired by the title of the article by Herpin and Verger (1998)

³³. An intermediate path is proposed by Gethin (2023), who integrates public services into the construction of monetary poverty measures, thereby helping reconcile monetary and multidimensional approaches to measuring living standards, as public services are major determinants of differences between countries in terms of deprivation in areas such as health, education, and other non-monetary dimensions of quality of life. Moreover, a recent study by Insee quantifying the value

cross-referencing the synthetic indicators corresponding to each dimension, it quickly becomes apparent that different indices measure different realities : for example, existential poverty, monetary poverty, and subjective poverty are distinct (Lollivier and Verger, 1998) ; monetary poverty and poverty in material living conditions only partially overlap (Blasco, 2023). Each spotlight illuminates different facets of poverty : this is probably the strongest argument in favor of multidimensional approaches. Such an approach typically leads to the development of a dashboard, which brings together a body of information from each component or dimension, whose interrelation (correlation, overlap) is observed at a minimum, and whose incidence and intensity of poverty rates are considered separately. The cumulative nature of poverty situations makes it difficult to identify the direction of causality between the various symptoms of poverty ; however, observing the temporal sequencing of forms of poverty can lead to identifying regularities and thus attempt to prevent risky situations upstream (Lollivier and Verger, 2005). As for aggregate indices, while often criticized for their complexity and artificiality, they nonetheless complement the analysis by offering a snapshot at time t of the extent of cumulative deprivations experienced by individuals in a society through the study of joint deprivation distributions. Thus, each index sheds light on a specific aspect of poverty that must be clarified in light of the objectives one sets, for which multiple instruments are needed (Tinbergen, 1952).

Finally, the question of the primary statistical unit to be favored—individual or household?—remains central in the implementation of public policies. This issue highlights the existence of a methodological gap between, on the one hand, the way the poor are identified, which is done at the household level, and on the other hand, the desire to describe poverty through individual characteristics that provide limited information and must be complemented by the characteristics of the household to which they belong. While it is mostly the combination of these individual characteristics that makes sense in the case of the working poor (Ponthieux, 2009), the use of the household as the basic statistical unit also raises specific challenges in the case of targeting social benefits to low-income households. Indeed, heterosexual couples often specialize to the detriment of women’s work (Meurs et al., 2010). The "de-conjugalization" of the AAH (Allowance for Disabled Adults) that took place in 2018³⁴ is emblematic of these issues as it raises questions about autonomy and dignity for low-income disabled people. This once again shows that methodological questions of indicator choice and the statistical units to be considered are not purely technical but raise significant issues of social justice.

Insights Provided by This Thesis

In this thesis, I combine objective and subjective approaches to poverty in order to provide new insights on the question of poverty thresholds, their determinants, and the overlap between monetary and multidimensional poverty. My approach is relative, aiming to identify a population that stands apart either in its perception of its situation compared to the rest of society, or in its practices or the

of public services in France shows that this broader vision of living standards is associated with a significant reduction in income inequalities (André et al., 2023).

34. which consisted of separating the calculation of the benefit intended for the disabled person from the income of their spouse. The AAH is reduced if the spouse of the beneficiary earns above a certain threshold, which can penalize married or partnered disabled individuals.

treatment it experiences, in line with the definition of poverty as social exclusion and not merely low income. More broadly, I propose answers to longstanding questions using longitudinal individual data, the quality of which continues to improve, including new variables intended to quantify the subjective experiences of respondents. Specifically, my approach involves using a set of scales to measure individuals' feelings — whether it concerns life satisfaction, financial situation, housing, the feeling of social exclusion, or self-reported health status — which I then compare to the objective definition of poverty based on living standards relative to the median income. The empirical contributions stem from an inductive and interdisciplinary methodology, drawing on tools from both economics and sociology.

My work is based on the joint descriptive study of income and the perceptions of individuals located at the bottom of the income distribution, both in static (cross-sectional) and dynamic (longitudinal) terms. The analyses generally focus on France, with the exception of Chapter 1, which presents a comparative study between France and other countries with similar monetary poverty rates for which data is available : Germany, the United Kingdom, and Australia. In Chapters 1 and 3, I contribute to the literature on subjective poverty by using the variable of self-reported well-being to question the level of the monetary poverty threshold based on individuals' feelings (Chapter 1) or to calibrate a multidimensional poverty indicator based on individual preferences (Chapter 3). In both cases, I offer an alternative way of outlining poverty, whether understood as broad economic vulnerability (Chapter 1) or as the accumulation of various deprivations (Chapter 3). In doing so, I situate myself within the tradition of poverty identification (Sen, 1979), presenting the characteristics of those identified as poor by the various methods. I discuss the scope and limitations of each approach in light of existing measures, to place them in a context that can be considered robust and informative from the perspective of public policy. In Chapter 2, I provide a quantitative answer to a qualitative theoretical debate concerning the relative importance of the determinants of the feeling of social exclusion in France, testing whether these determinants are objective in nature or linked to the perception of social benefits.

The three essays that make up this thesis have both a heuristic aim, rigorously documenting the phenomenon of poverty from individuals' experiences to deepen its understanding, and an operational one, offering concrete avenues for the development of indicators intended to inform public policies. In this sense, the approach is not purely descriptive but also normative, advocating for complementing the traditional approach to poverty based on income level (or another measure of wealth) with non-monetary dimensions, in order to account for inequalities in needs that exacerbate low income and hinder individuals' ability to fully participate in society. More broadly, this thesis argues for enriching current indicators, particularly by implementing a double poverty threshold to distinguish between extreme poverty and economic vulnerability on the one hand, and a multidimensional indicator (dashboard or aggregate indicator) to identify the accumulation of deprivations on the other. It contends that the discussion on the selection of desirable poverty indicators would benefit from a broader debate on the social justice concepts underlying it, and from being enriched by the lived and shared experiences of the people concerned.

Chapitre 1

Who Feels Poor ? Transitions Into Poverty and Subjective Well-Being

Ce chapitre a donné lieu à une publication dans une revue à comité de relecture : Richard, E. (2022) « Devenir pauvre : du revenu au ressenti. Transitions vers et hors la pauvreté et bien-être subjectif », *Revue des politiques sociales et familiales*, vol. 142-143, no. 1, 2022, pp. 23-45.

Abstract

The existence of a common monetary poverty line set at 60% of the national median income, used by most OECD countries, is very useful for comparisons over time and across countries. However, this measure is primarily a convention, and thus the 60% level might be questioned in terms of targeting public policies, as it does not necessarily reflect who is poor in a given society. In this study, I attempt to establish a meaningful poverty threshold at the national level by combining the objective approach in terms of income with a subjective approach in four comparable countries—France, Australia, Germany, and the United Kingdom—using detailed panel administrative data. More precisely, I compare household income trajectories with the evolution of individuals' well-being to identify empirical discontinuities in well-being dynamics following income shocks at the bottom of the income distribution. These discontinuities define a vulnerability zone where individuals are more impacted by transitioning below 80% of the median income in France and Australia, and 70% of the median income in Germany and the United Kingdom, than at any alternative monetary threshold. I then highlight the role of life and labor market events that occur simultaneously with households' income shocks, as well as the differences in institutional regimes that could explain the location of these empirical discontinuities in each country. Overall, my study suggests broadening the usual monetary poverty definition by considering alternative thresholds more closely aligned with individuals' perceptions of their situations.

Keywords Poverty, Measurement, Well-Being.

JEL codes I31, I32.

Résumé

L'existence d'un seuil de pauvreté monétaire commun fixé à 60% du revenu médian national, utilisé par la plupart des pays de l'OCDE, est très utile pour les comparaisons dans le temps et entre les pays. Cependant, cette mesure est avant tout une convention, et donc le seuil de 60% pourrait être questionné dans la mesure où il ne reflète pas nécessairement qui est pauvre dans une société donnée. Dans cette étude, je tente d'établir un seuil de pauvreté plus pertinent au niveau national en combinant l'approche objective en termes de revenu avec une approche subjective à partir de données longitudinales dans quatre pays comparables : la France, l'Australie, l'Allemagne et le Royaume-Uni. Plus précisément, je compare les trajectoires de revenu des ménages avec l'évolution du bien-être des individus afin d'identifier des discontinuités empiriques dans la dynamique du bien-être suite à des chocs de revenu en bas de la distribution. Ces discontinuités définissent une zone de vulnérabilité où les individus sont plus impactés lorsqu'ils tombent en-dessous du seuil de 80% du revenu médian en France et en Australie, et de 70% du revenu médian en Allemagne et au Royaume-Uni, qu'à tout autre seuil monétaire alternatif. J'insiste ensuite sur l'importance des événements démographiques et professionnels qui peuvent être à l'origine des chocs de revenu subis par les ménages dans chaque pays, ainsi que sur les différences entre les régimes institutionnels entre pays, qui pourraient expliquer la localisation des discontinuités empiriques. Globalement, mon étude suggère d'élargir la définition usuelle de la pauvreté monétaire en utilisant des seuils alternatifs mieux ancrés à la perception de leur situation par les individus.

Mots-clés Pauvreté, Mesure, Bien-être.

Codes JEL I31, I32.

I Introduction

The objectives of a poverty threshold are multiple and aim to understand and effectively combat poverty. A first objective is measurement and comparison, since the poverty threshold allows for quantifying the number of people considered poor in a society. A second objective of a poverty threshold is to guide social and economic policies : by defining a poverty threshold, governments and organizations can better target their interventions and resources to help the most vulnerable populations. Finally, the poverty threshold is an important tool for tracking progress in poverty reduction and drawing public and policymakers' attention to the extent and severity of poverty, thus prompting concrete actions to reduce it. The famous Tinbergen principle (Tinbergen, 1952) states that for each economic policy objective, there must be at least one policy instrument. The monetary threshold at 60% of the median income, which is standardized across European countries, allows comparisons of poverty levels between these countries over time and therefore is a useful tool regarding the first objective, as emphasized by the Canberra Group on Household Income Statistics in their landmark report (Canberra Group, 2001).¹

Relative measures of poverty gained popularity under the influence of the renowned British sociologist Peter Townsend, who defined relative poverty as a "lack of resources to obtain the type of diet, participate in the activities, and have the living conditions and amenities which are customary, or are at least widely encouraged or approved, in the societies to which they belong" (Townsend, 1979). Consequently, a consensus regarding the use of relative measures in developed countries gradually emerged to account for inequalities. The choice of 60% of the median income as a relative poverty line is a widely adopted convention, particularly in European Union countries— the European Commission indeed considers that people are "at risk of poverty" if their household income is below 60% of the median income. This threshold is a dispersion index, which reflects the income distribution within a society and identifies those who are significantly worse off than the average. Indeed, it is a headcount ratio that provides the share of the population whose equivalised disposable income falls below the threshold, but it does not convey any information about the intensity of poverty. While this measure serves as a useful benchmark for cross-country comparisons, in the absence of a clear alternative poverty measure, it has often been put forward in national public debates as a way to identify people in poverty, even though the level of the threshold is a convention that may not reflect reality.

In this paper, I argue that it would be desirable to provide additional meaningful monetary thresholds to better identify who is poor and raise awareness of the prevalence of poverty in its various levels. Some alternatives to the 60% threshold, like the 50% of median income threshold, have already been implemented by some countries or organizations to identify households in greater deprivation. For instance, the OECD's headline poverty indicator defines as 'poor' those in households with incomes below 50% of the median income and identifies the lower middle class at 75% of the median income (OECD, 2019). I depart from these approaches by attempting to provide empirical justification for the poverty threshold levels ;

1. The Canberra Group provides guidelines and standards for the collection, analysis, and presentation of household income data. Their recommendations are widely used to ensure consistency and comparability of income statistics across countries. They particularly highlight the importance of defining clear and consistent poverty thresholds for the measurement of poverty. They suggest that poverty thresholds should be based on comprehensive household income data, taking into account the variations in income distribution within a society.

in other words, by adjusting them to reflect actual living conditions. To this end, I combine the monetary approach with a subjective approach based on individuals' perceptions of their overall situation, approximated through life satisfaction. More precisely, I conduct a comparative analysis of income trajectories of individuals situated at the lower end of the income distribution and the corresponding changes in reported satisfaction, understood as well-being.² I seek to identify empirical discontinuities in the relationship between income and well-being that could offer an alternative perspective to the prevailing relative monetary poverty threshold at 60% of the median income. To this aim, I use detailed national-level panel data from four countries —France, Germany, Britain, and Australia. Despite having different institutional settings, these countries exhibit relatively similar levels of monetary poverty at 60% of the median income. The longitudinal component of these datasets, that are national versions of the Eurostat-SILC database, are leveraged to compare household income trajectories with the dynamics of well-being over a period of up to four consecutive years. As for negative income shocks, the findings indicate that individuals in France and in Australia particularly resent falling below 80% of the median income, while Germany and British respondents experience the lowest well-being while transitioning below 70% of the median. These results are estimated independently of the magnitude of the income loss or the initial position in the income distribution, and remain robust even when controlling for various dynamic sociodemographic factors and is. In terms of income gains, no specific effect is observed when individuals jump above various income thresholds, which aligns with the "loss aversion" theory popularized by Kahneman and Krueger (2006).

This study provides new insights into the interplay between objective and subjective measures of poverty in the course of several years. It brings an interesting pattern to light, which is the existence of discontinuities in the dynamics of income and subjective well-being. In this respect, it falls within the purview of the social choice theory, which aims to construct collective choices based on individuals' welfare. Within the poverty measurement literature, welfarists have usually concentrated their efforts on the aggregation paradigm, as opposed to the identification aspect of poverty, as articulated by Sen (1979). The aggregation approach is primarily concerned with establishing the mathematical conditions or axioms that must be met before devising standardized poverty measures. Building upon the pioneering contribution of Atkinson and Bourguignon (1982), recent research in this domain has notably emphasized the challenge of constructing multidimensional poverty indices. One prominent example of such measures is the Foster-Greer-Thorbecke poverty measures proposed in Alkire and Foster (2011). The development of aggregate indices is technical and implies many ad hoc decisions that are relative to the determination of weights, both across and within dimensions. In this context, using respondents' perceptions has been proposed as a means to mitigate the arbitrariness inherent in these decisions. A recent illustration of this approach can be found in Decancq et al. (2019b), where the authors calibrate a novel class of poverty indices by deriving weights from regressions on life satisfaction data through surveys, at the subgroup-level. Alternative methods have been used in the literature to capture respondents' preferences, including hedonic regressions, contingency evaluation methods, or direct questioning of respondents. However, in all of these studies, the determination of thresholds, both at the dimension- and at the index-level, are entirely left to researchers.

2. Life satisfaction is employed as the primary outcome and a proxy for well-being or utility (the rationale for this choice is discussed in Section II).

The task of delineating these thresholds aligns more closely with the objectives of the identification approach, which seeks to specify the set of essential needs to be considered. This set of needs has been progressively acknowledged to extend beyond monetary aspects — for instance material deprivation, health, education, social capital or environment. While some studies have examined the intersection between several of these dimensions (e.g., Blasco and Picard (2021)) on living conditions and monetary poverty), very few studies have questioned the adequacy of the monetary poverty line based on individuals' well-being³. The only example is provided by scholars from the Leyden School, who questioned the adequacy of the monetary poverty line through a direct assessment of the minimum level of well-being or utility, as reported by survey respondents. More precisely, Hagenaars and van Praag (1985) theorised the Leyden Poverty Line (LPL) using the declared amounts of disposable income associated to various levels of well-being, ranging from "very weak" to "very good" on a scale from 1 to 6. By establishing the relationship between reported amounts and income levels, they derived a poverty line that would correspond to a predetermined minimum level of well-being. In light of van Praag's seminal work, this study presents an alternative approach to "objective" measures of poverty, starting from individual perceptions without predefining minimum well-being levels. Building on the insights of P. Townsend, who posited that poverty corresponds to a point of inflection in the welfare function, the poverty line is defined as the income level below which a more than proportional decrease in welfare is perceived. Important, unlike the Leyden School studies who employed the concavity of the welfare-income relationship as the basis for their findings, drawing from Easterlin (1974), this study adopts an agnostic stance on the welfare-income relationship. Instead, it focuses on examining the dynamics of the relationship between welfare and income to address potential confounding factors that may drive the observed concavity pattern between income and welfare.

This paper makes several key contributions to the literature on poverty measurement. Firstly, it unveils discontinuities in the dynamics of subjective well-being associated with income trajectories at different points along the income distribution, and argues that the initial observed discontinuity can be interpreted as a vulnerability or fragility threshold, if not as a subjective poverty line. This approach is novel and enhances our understanding of subjective well-being as a measure of poverty. Incorporating the temporal dimension also helps mitigate concerns regarding differential interpretations of subjective scales. Secondly, this study provides cross-country evidence showcasing diverse patterns in the relationship between well-being and income. The observed discontinuities in these patterns potentially signify subjective transitions into poverty. In particular, the observed drop in satisfaction around 70% or 80% of the median income could result from a relative comparison made by households who might resent the fact that they are downgrading from the middle-class to the low-income class. Section 2 of this article presents the data utilised and provides an overview of key descriptive statistics. Section 3 outlines the model employed for the main regression analysis. The main results are presented and discussed in Section 4, with further elaboration and extension in Section 5. Finally, Section 6 offers concluding remarks.

3. Generally, researchers interested in the joint distribution of income and well-being have investigated the question of adaptation of well-being to income trajectories (see D'Ambrosio et al. (2016) for an application on adaptation to monetary poverty). This pursuit differs from the objective of identifying the portion of the population classified as poor.

II Data and descriptive statistics

II.1 Presentation of the datasets and main variables

I use combined administrative and survey data, from national versions of the European Union Statistics on Income and Living Conditions (EU-SILC). For France, I use the Statistics on Resources and Living Conditions (SRCV), a longitudinal survey conducted by the National Institute of Statistics and Economic Studies (INSEE). It was matched to administrative fiscal data since 2008. In this dataset, panel-individuals are interviewed at least 4 years in a row and up to 9 years. The design of the dataset is rotational, meaning that a ninth of the entire sample is renewed each year. The advantage of such a design is to reduce fluctuations and volatility of the cross-sectional results over time : the estimates of change are smoother and more robust than those who would be obtained from a sequence of cross-sectional surveys. All the other datasets, the German Socio-Economic Panel (GSOEP), the Household, Income and Labour Dynamics in Australia (HILDA) and the UK Household Longitudinal Study (UK-HLS) exhibit a different design. Respondents were sampled at once the first year of interview, which corresponds to 1984 for Germany, 2000 for Australia and 2010 for the United-Kingdom⁴, and then the respondents remain in the longitudinal datasets indefinitely. To ensure the surveys remain representative of the general population, they are topped-up with new samples. Temporary members within households are also interviewed, and children of permanent respondents are followed overtime.

The main outcome of analysis is the life satisfaction scale, which I use as a proxy for individuals' utility (see next section for a discussion about the exact definition of utility). Respondents are asked to rank their satisfaction regarding their current life on a scale from 1 to 10. This measure is similar across questionnaires, the only exception being the UK, where respondents are not asked to provide a number but to choose a category, ranging from "completely dissatisfied" to "completely satisfied" (7 options in total). Therefore, I standardize the life satisfaction scale– by subtracting the mean and dividing by the standard deviation– in order to make meaningful comparisons across countries.⁵ Figure 1.1 shows the distribution of the answers to life satisfaction given by respondents of every country. The distribution of life satisfaction is rather similar across countries, generally skewed to the right with a high density for answers 8/10 and 6/7 for the UK, and very few people acknowledging they are fully dissatisfied. Nevertheless, measuring subjective well-being⁶ with reported life satisfaction is likely to be hampered by several types of issues that have been widely documented in the literature. Three types of problems may arise. First, surveyed individuals might interpret the same survey question on subjective welfare differently, whereas the usual models (e.g., Probit estimators) assume that the thresholds of the scale are constant parameters. This phenomenon is known as scale heterogeneity, first introduced by Ravallion et al. (2016). In this study, the authors use real-life examples from three developing countries (Tajikistan, Guatemala and Tanzania) to prove their point, but they acknowledge this is unlikely to be the case in richer countries.

4. The UK Household Longitudinal Study builds on the British Household Panel Survey (BHPS) which ran from 1991-2009.

5. The distribution of standardized change in life satisfaction is visible in the Appendix, Figure 1.11.

6. According to Bernheim (2016), *self-reported* well-being is more accurate than the widely-used *subjective* well-being, since we are never observing well-being itself, only measures of it.

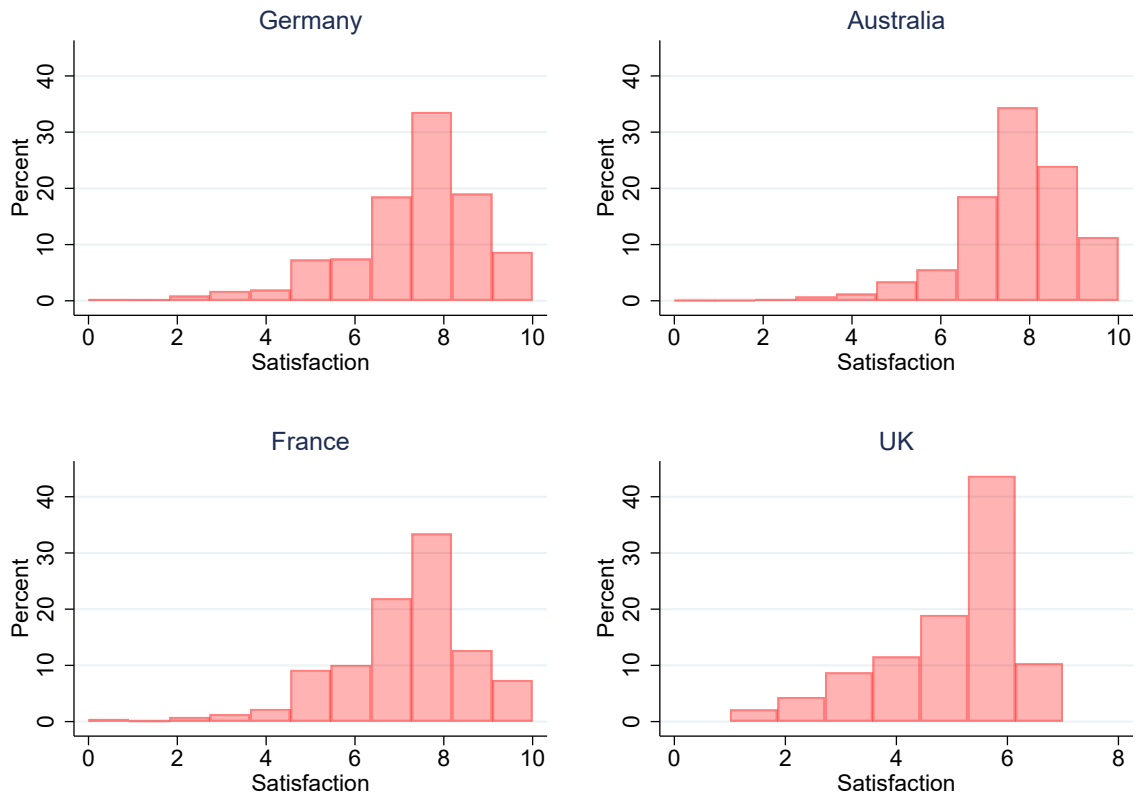


FIGURE 1.1 – Distribution of the life satisfaction scale

Lecture : All respondents to the life satisfaction question in 2019. Almost 40% report 8/10 to the life satisfaction scale in Germany, Australia and France. For the UK, almost 50% of respondents report 6/7.

Second, Benjamin et al. (2021) recently investigated the various weights that people attribute to different life domains, time-horizons and social circles when answering any survey question about happiness or welfare, depending on their characteristics. Regarding life satisfaction, surveyed individuals seem to give the highest weight to "Income and financial security" (and among them especially men, aged, low-income and employed people), which confirms the importance of the monetary driver of subjective well-being. Finally, Bond and Lang (2019) made a stronger statement by showing that it is not possible to rank the mean satisfaction of different groups unless very demanding assumptions on the underlying distribution of unobserved utility functions are made. Yet, choosing a specific distribution amounts to taking a stand on the relation between happiness and income, which is still in debate since the Easterlin paradox (Easterlin, 1974). However, they acknowledge that the greater number of categories on the scale, the higher likelihood that the underlying distribution of happiness is continuous, and therefore, it becomes more likely that individuals that are more satisfied in terms of stochastic dominance are happier on average.

I use the relative monetary threshold at 60% of the median equivalised disposable income for each year of observation, defined at the household-level. The disposable income is "the income available to the household for consumption and saving"⁷. It is the sum of all revenues received by the household (including unemployment benefits, pensions, capital income and other social benefits) minus direct taxes

7. Source : <https://www.insee.fr/en/metadonnees/definition/c1458>

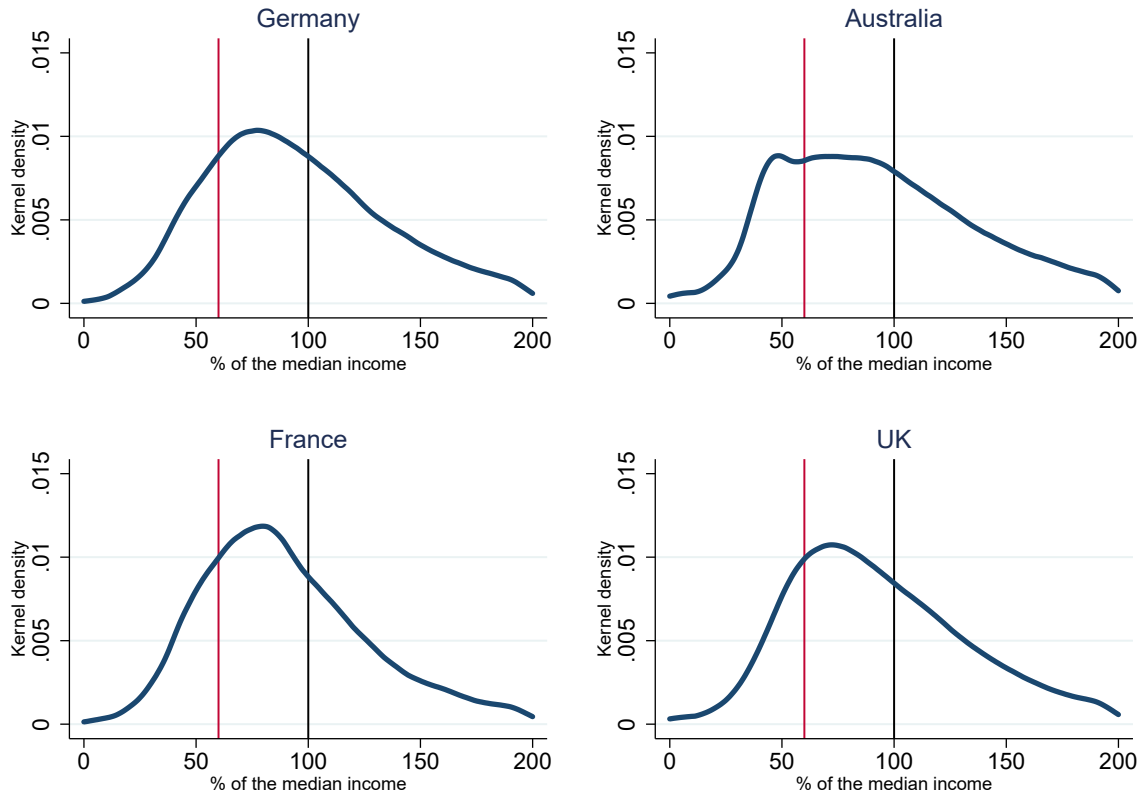


FIGURE 1.2 – Densities of equivalised disposable income

Note : All years (2010 to 2019). On the x-axis, 100 corresponds to the median equivalised disposable income. Densities are capped at twice the median income.

(income tax, housing tax, general social contributions and other taxes on capital income). The disposable income is then divided by the number of consumption units, according to the equivalence scale set by OCDE, which attributes 1 unit to the first adult within the household, 0.5 unit to other individuals aged 14 and more, and 0.3 unit to children below 14. The distribution of equivalised disposable income per household unit is shown in Figure 1.2 for all years. The distribution of pre-tax and post-tax income can be found in the Appendix (Figure 1.12). The slope of the distribution is quite steep for France and the UK until 90% of the median income, and much flatter for Australia. Looking at the Kernel density of income for each country (see Appendix), the distribution of income is very concentrated around 80% of the median income, but much flatter in Germany at the same location in the distribution. It occurs a little lower down the income distribution for Australia (mostly from 60 to 80% of the median income).

An important feature of this analysis to note is the methodological gap between the individual and the household. Satisfaction is reported at the individual level, while living standards are conventionally measured at the household level. However, there are difficulties related to analyzing a category constructed at the intersection of two statistical units. In our case, being poor is equivalent to living in a poor household, with the assumption of pooling resources, meaning all members of the same household are either poor or non-poor. According to Ponthieux (2009), this assumption implies that all members of a household enjoy the same standard of living, which potentially masks inequalities among individuals

(e.g., gender inequalities within couples). It also raises the problem of aggregating the utilities of different household members. I choose to maintain these two statistical levels because the individual is the unit of observation in my longitudinal datasets, but other choices have been made in the literature. For instance, Lollivier and Verger (2005) reason entirely at the household level : a household is considered dissatisfied as soon as at least one of the adults declares dissatisfaction. When I reason entirely at the individual level by restricting the sample to stable households later in the analysis, I find similar results as in the main specification, indicating that changes in household composition are not likely to affect satisfaction with life. A question still remains to explore : the variability of responses to life satisfaction within the household. Unfortunately, this variability is too low to make any robust statistical inference.

II.2 Sample and selection

I define samples homogeneously across countries by considering 10 years of successive individual responses to life satisfaction from 2010 to 2019. Year 2010 corresponds to the start of the UK Household Longitudinal Study, and before that date, subjective questions were not asked in the French survey. After 2019 came the global pandemic which might affect satisfaction in a specific way. In all countries, I chose to restrict my sample to permanent respondents (respondents who were initially sampled and meant to be reinterviewed each year), thus excluding temporary housemates and family members, and to all individuals aged 16 years old and more (before this age, individuals are considered as children and are not asked subjective questions). Due to the specific rotational structure of the French panel data, I restrict the French sample to mandatory interviews, meaning cycles of 4-years of responses for each individual depending on the subsample (see Figure 1.10 in the Appendix). Indeed, since interviews from the 5th year up to the 9th year are only optional for individuals, I am concerned by the issue of sample selection due to nonrandom attrition of respondents at each wave. Despite the total number of observations remaining constant due to the rotational structure of the data, I observe lower response rates for subjective questions because they can only be asked face-to-face. On the day of the interview, in case the panel-individual is absent, most questions can indeed be answered by one's kin, except subjective questions which cannot be proxied. As a result, about 25 to 30% of subjective responses are missing (while we have information on most other variables for these individuals), resulting in additional source of sample selection, as can be seen in Table 1.1 just below where I document response rates for every survey.

For each country, the first column corresponds to the total number of observations per year, all subsamples combined. The total number of answers remains fairly high for Australia and France⁸, it is slightly increasing for Germany, but is substantially reduced in the United-Kingdom, meaning that additional refreshment samples provided in the 2010s did not compensate for survey attrition. Regarding response rates for the life satisfaction question, they are very high for Germany and Australia during the whole period of time, and they are improving for the United-Kingdom until reaching similar rates. Considering the lower response rates for France, I am concerned by a potential bias between respondents and nonrespondents to life satisfaction. I thus compare the two populations in Table 1.6 in the Appendix,

8. Samples in 2010 and 2019 are higher in France due to my choice of restricting the sample to mandatory interviews (see Figure 1.10).

TABLE 1.1 – Response rates among surveys

Year	Germany		Australia		France		United-Kingdom	
	Total	Response rates (%)	Total	Response rates (%)	Total	Response rates (%)	Total	Response rates (%)
2010	24432	98.64	11375	93.9	9951	73.57	47063	85.15
2011	29017	87.64	15459	93.71	12891	75.73	53460	80.65
2012	28277	93.72	14998	93.81	13120	76.14	46467	82.14
2013	31318	98.45	14747	93.99	12200	75.59	42604	83
2014	27786	98.26	14493	94.58	12418	75.79	39764	84.11
2015	27512	98.53	14408	94.55	12311	76.15	34787	88.99
2016	29400	98.03	14320	94.77	12249	76	31937	90.11
2017	32906	98.6	14173	94.19	12095	76.61	28877	93.06
2018	30680	98.63	13704	94.49	11895	74.87	25888	94.22
2019	30219	98.76	13336	94.4	8331	74.72	24347	94.84

Note : Adult permanent respondents (aged 16+). Response rates correspond to the share of answers to life satisfaction over the total number of respondents.

and I indeed observe that differences in mean characteristics are systematic and significant at the 1% level. Respondents to life satisfaction are older and more female; they are more retired and inactive than the general population. Singles and couples without children are also overrepresented among them. In order to rebalance the sample, I build post-stratification weights based on respondents' observable characteristics such as age, gender, activity status, household type and deciles of standard of living⁹. More precisely, I form deciles of the probability to answer face-to-face to the questionnaire, and I then assign to each respondent of each decile group the inverse proportion of respondents in the group. All subsequent computations are weighted based on the corresponding sampling weights. This method, despite not able to correct perfectly for observable differences, is nevertheless useful at bringing the mean characteristics of the sample of respondents closer to the means of the original representative sample. As for the other countries, which are less subject to nonrandom attrition in the data, I use longitudinal weights that were computed by survey designers.

Table 1.2 presents descriptive statistics for all four countries' respondents in 2019, using cross-sectional individual weights to rebalance the numbers. At first sight, it seems that numbers are roughly comparable in all four countries, with small noticeable differences within categories. In all datasets, women are slightly overrepresented. The share of respondents by age category is fairly similar across countries, with a sizeable fraction of respondents being aged 60 years old and more, hence an important fraction of retired people as well. Single households are particularly numerous and France and Germany. The share of lone parents is rather low in the United-Kingdom where households tend to be have more complex affiliations (in the data, many setups are observed, e.g. several adults with or without children but not in a couple). Besides, interestingly, while poverty rates at 60% of the median income are very similar in European countries, Australia exhibits a large share of its population lying below the threshold at 60% : indeed, the income distribution (Figure 1.2) is much more spread out. Finally, government transfers are distributed

9. In a recent survey of the literature, Dutz et al. (2021) argue that the majority of nonresponse bias is however explained by selection on unobservables. To correct for this, they advise to use variation in participation rates (through variation of the timing of reminder emails for instance, or variation in the level of incentives) and identify different types of nonparticipants. Such variation is nevertheless nonexistent in SRCV data.

TABLE 1.2 – Descriptive statistics in 2019

	Germany	Australia	France	UK
Sex				
Men	49.12	49.22	48.16	48.34
Women	50.86	50.78	51.84	51.66
Age				
16-30 y.o.	17.84	22.66	21.37	20.55
30-45 y.o.	22.65	22.44	22.71	20.59
45-60 y.o.	27.31	26.05	25.54	25.96
More than 60 y.o.	32.19	28.85	30.38	32.90
Activity status				
Employed	59.96	62.87	50.09	54.85
Unemployed	3.90	3.51	6.34	3.81
Students	3.17	2.43	9.81	6.06
Retired	21.69	22.78	27.86	27.15
Inactive	6.70	8.19	5.90	7.34
Family type				
Single	25.52	15.46	22.71	17.14
Lone parent	5.99	12.26	9.53	2.99
Couple w/o children	33.96	25.45	27.38	43.50
Couple w children	31.99	42.67	38.68	26.00
Other family type	2.53	5.80	1.70	10.37
Government transfers				
Family benefits	36.60	12.34	32.74	18.35
Housing benefits	2.28	.	22.61	8.55
Social benefits	0.80	14.97	17.79	2.56
Poverty status				
Poor at 60% of median income	13.75	20.04	15.00	14.57
Observations	30219	13336	8331	24347

Notes : All numbers are percentages derived from adult permanent respondents' answers (aged 16+). I restrict samples to year 2019 for Germany, Australia and the UK. For France, I use all available information for 2019 (all subsamples).

differently across countries, which correspond to various models of the welfare state. Following the famous typology by Esping-Andersen (1990), France and Germany are two examples of conservative regimes, in which assistance tends to be family-based, while Australia and the UK are liberal regimes, where public assistance is usually means-tested. France's system is considered as a relatively generous system with a variety of specific and income-conditioned benefits, emphasizing family support and housing, while in Germany, the system features social benefits covering different life situations, with a strong focus on returning to work. In Australia, contrary to other countries, housing assistance does not exist beyond public housing. Social assistance outside of in-work benefits is targeted towards young people and families, and otherwise corresponds to a cash transfer called *Special benefit*, which constitutes a last-resort payment targeted at a very low share of households¹⁰. Comparable schemes exist in France, where social assistance is known as *Revenu de solidarité active* (RSA), in Germany as *Sozialhilfe* and in the UK as *Universal credit*.

10. "A payment if you are not eligible for any other income support from us. You must also be in financial hardship", says Australian government website.

III Model

In this study, I investigate the effect of income losses and gains on the evolution of life satisfaction at different places in the income distribution. Since reported well-being can capture many utility notions, I first have to clarify that I interpret the life satisfaction question as a proxy for *flow utility*, i.e., "the contemporaneous component of utility under the assumption of time-separable preferences" (Benjamin et al., 2021). In other words, I define utility at time t as the present value of all utilities for other periods, with $t \in [0, +\infty]$. Using flow utility u_t means that all discount factors are set to 0 except the discount factor at time t :

$$U((R_t)_{t \in (0, +\infty)}) = \sum_{t=0}^{+\infty} \beta^t u_t \quad (1.1)$$

Similar to the prospect theory (Kahneman and Tversky, 1979), I am interested in the joint distribution of income and utility and I consider that what matters is not final outcomes but rather changes from a status quo or differences from a reference point. Whereas behavioural economists define the utility function over gains and losses in income, I consider that changes in income, whatever their direction, have an impact on life satisfaction that differs along the income distribution. I thus depart from the standard microeconomic literature in hypothesising that utility u_t not only depends on current revenue R_t , but on another component z , the income threshold that individuals are crossing when they lose or gain revenue, which also depends on past revenue R_{t-1} . In other words, I define $u_t \equiv U(R_t, f(R_t, R_{t-1}))$ with $f(R_t, R_{t-1})$ equal to 1 when $R_t < z < R_{t-1}$, and 0 otherwise. Since I am interested in how utility evolves with revenue, I compute u_{t+1} using the fact that $R_{t+1} = R_t + dR$:

$$u_{t+1} = U(R_t + dR, f(R_t + dR, R_t)) = u_t + \frac{\partial U}{\partial R} \frac{dR}{dt} + \frac{\partial f}{\partial R} \frac{\partial U}{\partial z} \frac{dR}{dt} \quad (1.2)$$

The total derivative of U with respect to R is thus equal to $\frac{\partial U}{\partial R} + \frac{\partial f}{\partial R} \frac{\partial U}{\partial z}$, which is the sum of the direct effect of the change in income and the effect of crossing income threshold z . The standard microeconomic literature usually solely focuses on $\frac{\partial U}{\partial R}$ when estimating the derivative of utility with respect to revenue, and I add a new term to the equation, which is the effect of crossing an income threshold consecutive to a positive or a negative income shock. I am interested in estimating this term empirically, which corresponds to coefficient β in the following equation :

$$\Delta U = \alpha \Delta R + \beta \mathbf{1}_{\text{cross } z} \quad (1.3)$$

where $\alpha \sim \frac{\partial U}{\partial R}$ and $\beta \sim \frac{\partial f}{\partial R} \frac{\partial U}{\partial z}$. Note that β is not a derivative in the usual sense due to the discontinuity of f in the neighborhood of threshold z .

Changes in income are measured at the household-level and depend on both households' characteristics and life and labor market events. Negative income shocks can be defined as transitions into poverty when it causes households to fall below any monetary line –be it 60% of the median income or an alternative

threshold. Conversely, positive income shocks are associated to exits from monetary poverty (as defined by any threshold). Throughout this paper, I make the assumption that not all income gains and losses have the same impact on individuals' satisfaction, and I try to identify discontinuities in the dynamics of subjective well-being following any income shock. I argue that the first observed discontinuity in life satisfaction along the income distribution represents a subjective transition into poverty, when income falls below a minimum level of satisfaction.

Despite income and financial security being the main determinant of life satisfaction¹¹, obviously changes in households' monetary situation do not exhaust the evolution of their satisfaction. I make the hypothesis that satisfaction also depends on an absolute level of income to be defined, of a number of characteristics X , whether they are static or dynamic, and many unobserved variables. For that reason, I am not concerned about the low R-squared values associated with regressions. I model the association between the change in life satisfaction ΔS_t and the change in poverty status ΔP_t across periods t and $t - 1$ the following way :

$$\Delta S_{it} = \alpha \frac{\Delta R_{it}}{R_{it}} + \beta 1_{\text{cross } z} + \mu X_{it-1} + \gamma S_{it-1} + \delta \log(\text{Decile}_{it-1}) + \varepsilon_{it} \quad (1.4)$$

The coefficient of interest is β , the impact of the change of poverty status on the evolution of life satisfaction or utility. I control for the relative size of income loss or gain with $\frac{\Delta R_{it}}{R_{it}}$, the logarithm of income decile in $t - 1$, and for a range of characteristics in $t - 1$ including sex, age, year of interview, household type, activity status and size of the urban area, where the coefficients are summarized in vector μ . I also include the initial level of satisfaction S_{t-1} as a reference point, and I cluster the standard errors at the household-level. The sociodemographic characteristics are highly correlated with the type of shock that is responsible for transitions in and out of poverty : controlling for them allows us to isolate the effect of crossing any poverty threshold on reported life satisfaction. In a next step, I disentangle the effect of life and labor market events by sequentially adding them as control variables to the main regression and comparing coefficients across different specifications. In order to account for the specific form of the outcome, i.e. the fact that the values of life satisfaction have a meaningful sequential order, I use a nonlinear regression with ordinal Logit. As they are in log-odds units, coefficients need to be converted into predicted probabilities. To mitigate measurement error resulting from artifact variations in income, I exclude trajectories that are included in a range of 5 percentiles above and below every considered income threshold.

11. Benjamin et al. (2021) show that respondents who report their well-being on a scale give the highest weight to "Income and financial security", then to "Family life and relationships", then "Physical health", etc.

IV Empirical discontinuities in well-being following income shocks

IV.1 Income variation and income trajectories

Can we relate the dynamics of individual subjective well-being to the income trajectories of households, particularly the positive and negative income shocks they experience over time? To investigate this question and to outline the impact of income on subjective well-being, I examine simultaneous variations in well-being and income across various income thresholds at the lower end of the income distribution. Prior to this analysis, I document the extent and frequency of income trajectories across countries in Table 1.3 below. I distinguish between year-to-year variations, which I use in the primary specification to maximize statistical power through a larger number of observations, and longitudinal trajectories of panel individuals present in the dataset for more than two consecutive years. Summary statistics reveal significant year-to-year income volatility, whereas longitudinal trajectories tend to be more stable. Regarding year-to-year variation, approximately 50% of individuals experience a flat income trajectory, indicating that their equivalised disposable income remains within the same 5 percentiles of the income distribution. In the main model below, I exclude these flat trajectories from the regressions. I define negative income shocks (or declining trajectories) as income decreases by more than 5 percentiles in the income distribution, and positive income shocks (or rising trajectories) as income increases by more than 5 percentiles. Appendix Figures 1.14 and 1.15 complete the picture by illustrating the average relative income loss and gains from one year to the next, which are generally of low magnitude.

TABLE 1.3 – Summary statistics on income trajectories

	Germany	Australia	France	UK
Average year-to-year variation				
Flat (-5 to +5 pct)	50.02	37.89	50.09	38.98
Rising (> +5 pct)	26.00	27.64	26.10	30.12
Falling (< -5 pct)	23.97	34.47	23.81	30.90
Average longitudinal trajectory				
Flat (-5 to +5 pct)	29.45	8.96	40.68	22.36
Rising (> +5 pct)	38.54	6.59	32.15	35.48
Falling (< -5 pct)	32.01	84.45	27.17	42.16
Observations	210822	129262	74392	290532

Notes : All numbers are percentages summing up to 100 within a country (for year-to-year variation and longitudinal variation separately).

IV.2 Impact of negative income shocks on well-being

I first regress the change in standardized satisfaction across years $t - 1$ and t on dummy variables representing a negative income shock corresponding to falling below a relative income threshold ranging from 50% to 110% of the median income.¹² I plot the coefficients of successive regressions for individuals experiencing negative income shocks in Figure 1.3. Each point estimate represents the main coefficient

12. Below 50% of the median income in France, confidence intervals are too large to yield comparable results.

of a separate regression that identifies the effect of a negative income shock at each percentile of the median income on subjective well-being. All coefficients are rescaled for comparison, with a level set at 0 for the regression corresponding to the median income (the dashed line at 100). Appendix Figure 1.16 shows the corresponding numbers of respondents experiencing a negative income shock at each income threshold, while Appendix Figure 1.11 displays the distribution of standardized change in life satisfaction by country for a given year.

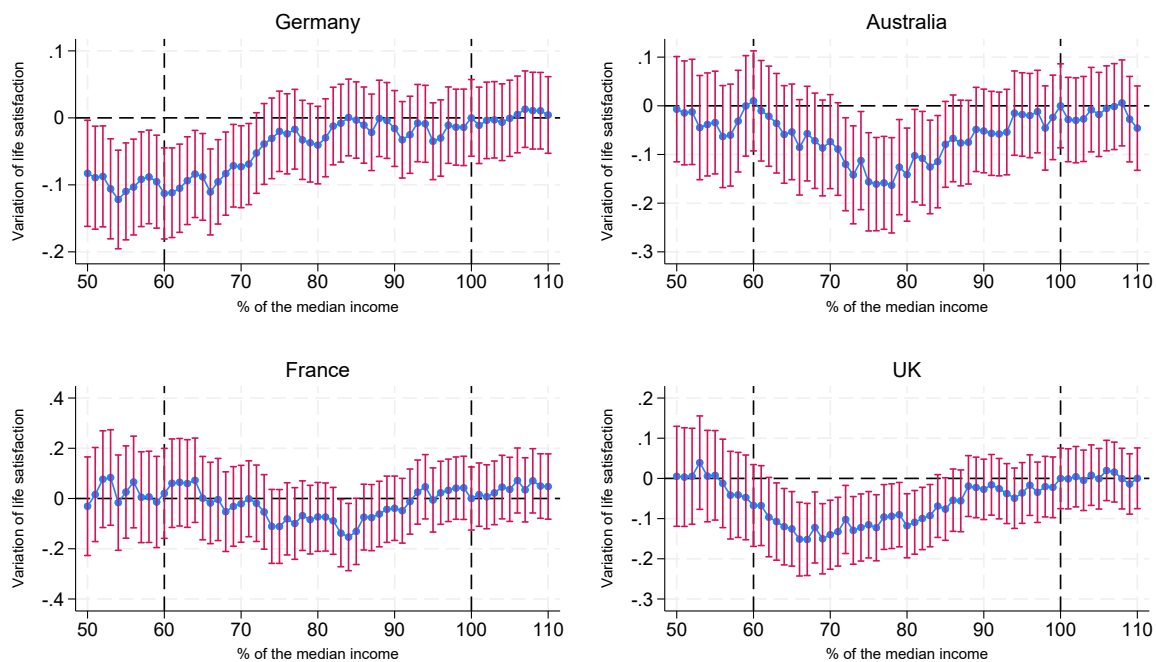


FIGURE 1.3 – Impact of negative income shocks along the income distribution on the change in life satisfaction

Note : All years (2010–2019). In Australia, falling below 78% of the median income reduces the probability of reporting higher satisfaction by $1 - \exp(-0.17) = 15\%$ compared to staying above the threshold.

A first striking fact is that, regardless of the country considered, there is a discontinuity between the dynamics of income and well-being at the level defined by negative and significant coefficients. These discontinuities are not observed at the same place in the income distribution but stand out clearly from the rest of the curve, which is rather flat and centered around 0. In Australia, for instance, negative and significant point estimates lie between 70% and 90% of the median income, meaning that individuals who fall below this range, while initially being above it, experience a significant decrease in satisfaction. This range of negative data points thus seems to define a "vulnerability zone," along which individuals find it particularly difficult to cope with negative income shocks. The most negative effects are observed around 84% of the median income in France, 78% in Australia, and 67% in the UK and Germany, arguably making these thresholds critical for understanding subjective transitions towards poverty. The magnitude of the coefficients is slightly lower in Germany than in other countries.¹³

13. In Figure 1.3, I use different scales to display the results by country due to the varying numbers of observations, which produce confidence intervals of different sizes. My focus is on the shape of the patterns rather than the absolute values. If all countries were displayed using France's scale, which has the largest confidence intervals, the patterns would appear

Interestingly, in all countries except Germany, the curve rises again as we move lower down the income distribution, meaning that the decrease in well-being consequent to falling below 60% of the median income is approximately the same as falling below the median income. One could argue that the confidence intervals are too large to make any strong conclusions since individuals located at the very bottom of the income distribution are also less present in the datasets. Another reason for this could be that people who are experiencing negative income shocks have different income trajectories than others and may be in a persistent poverty situation, such that they are more accustomed to income volatility down the income distribution and therefore become less sensitive to negative income shocks below a certain threshold. This aligns with the adaptation to poverty explanation advanced by Sen (1990). One possible avenue for further research would be to separate households based on their previous income trajectory (see Blavier (2023) for a comparison of households' trajectories into poverty in France). One could argue that consumption is only a source of utility in a context of socialization, with the idea that some consumption thresholds exist below which consumption ceases to be ostentatious and therefore, increasing it does not trigger any boost in satisfaction.

Interestingly, these patterns are unrelated to the magnitude of the income loss experienced by respondents across years. In Appendix Figure 1.13, I plot the mean income variation at each relative income threshold and observe that the relative share of income loss (relative to the previous year) decreases smoothly as one looks to the left of the income distribution, meaning that individuals who fall even further down the income distribution seem to experience a higher loss. Average relative income losses are generally between 30% and 60% of households' income in year 1 for these respondents. The shape of income losses along the income distribution is similar across countries with a convex pattern, despite the slope being steeper below 30% of the median income for Australia. It is puzzling to compare this figure with Figure 1.3, where individuals losing more money on average do not experience any change in overall subjective well-being. This observation seems to contradict the usual standard microeconomic representations of utility as a concave function of income, i.e., with an increasing slope when close to 0. Indeed, from this data, the effect of negative income shocks translates into monotonic shocks on utility below 60% of the median income. This implies other hypotheses on the indirect utility of the consumer that would need to be developed.

IV.3 Impact of positive income shocks on well-being

I replicate the previous method for upward income mobility in Figure 1.4, meaning I consider individuals experiencing positive income shocks this time. Coefficients are again rescaled to match a 0 effect at the level of the median income. Contrary to life satisfaction after negative income shocks, no particular pattern can be seen. Again, the curves look remarkably similar, with respondents crossing thresholds located at the bottom of the income distribution (below 60% of the median income) experiencing a very small gain in life satisfaction after a positive income shock. Coefficients are small and insignificant in Germany and the UK, and are highest in France, where the coefficient reaches around 0.2 log-odds. All

overly flat, making their shape less visible. This approach is also applied in subsequent figures, including Figures 1.4, 1.7, and additional figures in the appendix.

in all, responses to positive income shocks are very small or equal to 0, and no clear discontinuity zone can be identified. Appendix Figure 1.17 gives the corresponding numbers of respondents experiencing a positive income shock at each income threshold.

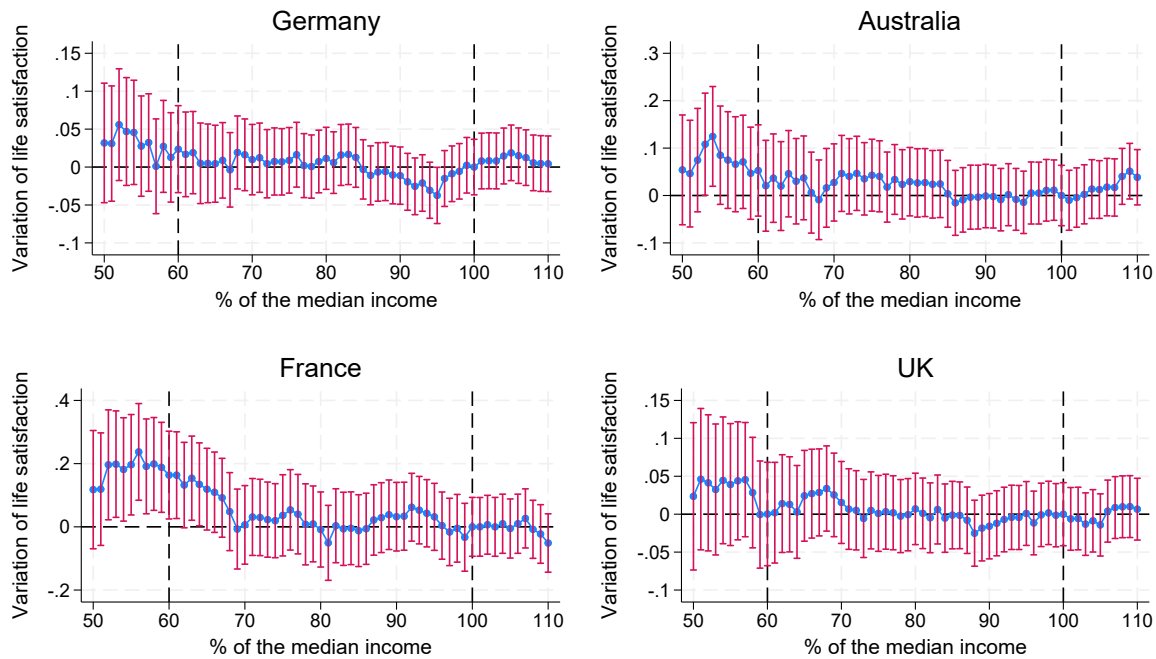


FIGURE 1.4 – Impact of positive income shocks along the income distribution on the change in life satisfaction

These findings therefore strengthen the existing evidence of an asymmetry in reported well-being consequent to negative vs. positive income shocks : considering the magnitude of the coefficients, positive income shocks are associated with lower responses, making the pattern of the relationship between subjective well-being and income shocks much flatter. In this respect, my results are in line with the prospect theory advanced by Kahneman and Tversky (1979), in contrast to the neoclassical theory of choice : due to the loss aversion phenomenon (Tversky and Kahneman, 1991; Kahneman and Krueger, 2006), through which individuals disproportionately resent negative vs. positive fluctuations of their income, the utility function, or value function, exhibits different properties for gains and losses (it is steeper for losses than for gains). In this theory, it is generally found to be concave for gains, reflecting decreasing marginal utility, and convex for losses, reflecting increased sensitivity to losses. However, unlike the prospect theory, I find that the disproportionate effect on well-being is attributable to the location of the income trajectory within the income distribution, meaning the fact of crossing an income threshold, rather than the magnitude of the change in income. Indeed, I look at the average effect of falling below (resp. rising above) an income threshold and I find discrepancies across individuals who experience the same income loss (resp. gain) depending on their initial position on the income ladder. For that reason, my results are conceptually different from those of the behavioral economics literature, despite similarities (asymmetry of gains and losses, and comparison with a reference point).

IV.4 Additional results

Heterogeneity. The results for negative income shocks vary widely across genders, as Figure 1.5 shows. Indeed, for all countries except Australia, discontinuities in the dynamics of the relationship between income and well-being appear more clearly when separated by gender. In the UK, the zone of discontinuities is located higher in the income distribution for women than for men, and the dynamics of subjective well-being with respect to income is very similar to France. In Germany and France, female respondents are more clearly affected than men by negative income shocks. Results for positive income shocks are presented in Appendix Figure 1.18. In all countries except the UK, women report higher well-being as a result of an increase in their income. In Australia, the curve starts to rise from the median income onwards. Otherwise, the profile of the relationship remains rather flat. These patterns might be attributable to a composition effect, whereby women are more numerous at the very bottom of the income distribution. They are indeed much more likely to be single parents than men, as well as earning a lower wage.

Alternative samples. I also consider alternative definitions of the original samples. I restrict the sample to the population aged 30 and more, since the economic situation of young people is likely volatile and different from that of the rest of the population. Corresponding figures are Figures 1.19 and 1.20 in the Appendix. The estimates do not evolve much except for Australia at the bottom of the income distribution for positive income shocks. What's more, since monetary poverty is measured by dividing the total disposable income of the household by the number of consumption units, it appears that when looking at the evolution of well-being consecutive to income shocks, we cannot disentangle the income effect from the household composition effect. In order to isolate the pure income effect, I replicate the methodology by restricting the sample to households whose equivalised size did not change from year to year. Appendix Figures 1.21 and 1.22 show that I obtain the same results, meaning that the observed pattern is due to an income effect, and is not a consequence of the change in household size¹⁴. The vast majority of households indeed remain very stable over time.

Change of outcome. Finally, I conduct two types of robustness checks by modifying the dependent variable. On the one hand, following the method suggested in Killingsworth et al. (2023), I create a dummy variable indicating whether the individual is satisfied in year t when they were not in the previous year $t - 1$. Satisfaction is defined as reporting a life satisfaction of 6 or higher out of 10 in Germany, Australia, and France, and 4 or higher in the UK. The control group, consisting of respondents with a zero value for this outcome, therefore includes individuals who remained in the same satisfaction bracket or transitioned from unsatisfied to satisfied. I employ a Probit model to account for the binary nature of the outcome. The results are presented in Figures 1.23 and 1.24 in the Appendix. They closely align with the main results shown in Figures 1.3 and 1.4, respectively. However, the coefficients now move in the opposite direction due to the outcome being the probability of declaring oneself dissatisfied. Specifically, the most negative relative monetary thresholds align with the most positive monetary threshold in this figure. This indicates that individuals are more likely to report dissatisfaction when falling below 65% of the

14. The corresponding Figures are not included in the Appendix but are available upon request.

median income in Germany, 70-80% of the median income in France, and 70% in the UK. In Australia, the pattern is much flatter than in the previous specification, suggesting that the size of the variation in well-being matters more in Australia than in the other countries. Regarding positive income shocks, the coefficients are mostly insignificant.

On the other hand, I use alternative outcomes that are available in only some of the surveys to investigate the role of households' savings. Indeed, the link between income and well-being is likely to be mediated by consumption, which can only be smoothed for households with savings. Duvoux and Yang (2022) recently showed the importance of taking wealth into account at the lower end of society to allow for a better understanding of the extent of social insecurity.¹⁵ The national datasets that I use do not ask respondents about their savings nor include any wealth component, but a few outcomes could nevertheless be informative about it. For instance, in France, individuals are asked whether their resources are enough to meet expenses or not, and whether they have the financial means to cope with an unexpected expense of a thousand euros (which is meant to reflect the level of the poverty line at 60%, more or less). In Australia, they are asked to what extent they can raise emergency funds, and in Germany, the extent to which they are worried about finances. These outcomes are not harmonized across countries, thus making comparisons challenging – in particular, I did not find any comparable variable in the UK survey. But comparing the curves with reported well-being allows investigating the robustness of the results and gauging whether savings play a role for individuals who report the lowest well-being. I report the results in Appendix Figure 1.25. For each of these variables, I use a similar Probit model. The pattern is quite clear in all cases, with a drop in the vulnerability zone, meaning that respondents are less inclined to report having savings they can easily raise, or that their resources are enough to make ends meet. These results are thus consistent with those of the main model.

V Economic and institutional mechanisms

In this last part, I focus on the various mechanisms that could hide behind differences in patterns in subjective well-being at the bottom of the income distribution. I first examine the micro-level determinants of transitions towards poverty that could determine the empirical discontinuities that we observed previously¹⁶. Indeed, it might be the case that drops in life satisfaction are closely related to life and labor market events that are occurring at the same time, and which could drive the results. In other words, some demographic or professional transitions associated with income loss might be overrepresented and might have higher impact around the empirical discontinuities in well-being observed along the income

15. Using the *Household Financial and Consumption Survey* developed by the European Central Bank, which is the only European-wide survey that includes data on household wealth, they measure wealth poverty, which is defined by the holding of liquid wealth reserves (immediately available) that are insufficient to ensure a standard of living above the poverty threshold for at least three months (Balestra and Tonkin, 2018).

16. I do not provide the symmetrical analysis for transitions out of poverty for various reasons. First, observed patterns of the relationship between subjective well-being and positive income shocks are rather flat and do not exhibit clear discontinuities, for any country. Second, life and labor market events that could cause transitions out of poverty are much less numerous in the data - I only observe two of them, employment and marriage, thus making the analysis less rich. Third, studying the determinants of positive income shocks arguably amounts to compare the efficiency of social safety nets across welfare states at study and to take a stand on what these states might do in order to reduce poverty and inequalities, which is beyond the scope of this paper. This paper indeed remains agnostic about policy implications of empirical subjective thresholds of poverty that are evidenced from the data, at the country-level.

distribution. Then, I study the institutional markers of differences between countries, particularly the role of social transfer systems and public goods. Finally, I compare the characteristics of individuals who are poor at 60% of the median income, with those of individuals who are located just above in the income distribution but below the threshold corresponding to the discontinuity in well-being.

V.1 Frequency and impact of life and labor market events

Why do people experience higher suffering from falling below a certain threshold of the median income, irrespective of their initial position on the social ladder the year before? In Figure 1.6, I plot the frequency of some life and labor market events experienced by respondents in every survey at each income threshold, averaged by deciles of the share of median income for clarity purposes. As for labor market events, I look at the frequency of unemployment, retirement and inactivity, while life events are demographic events at the household-level such as separation, birth or death within the household, that could significantly impact households' resources. These demographic events all modify the number of consumption units within households, while labor market events do not. From the graph, the proportion of respondents who experience either event is quite different across countries. Germany and France are similar insofar as people falling lower in the income distribution are experiencing more events in total, but the fraction of these events is not the same - for instance, separations happen much more often in France than in Germany, while inactivity is more associated to income losses in Germany. Nevertheless, I do not observe any discontinuity in the pattern that would match the profile of the curve in Figure 1.3, since no particular type of transition is standing out around the threshold of 80% for France. On the contrary, the proportion of transitions is rather smooth and decreasing along the distribution. However, the share of individuals that are experiencing these transitions simultaneously to losing a significant amount of income ranges between 15 and 25% at most. In Anglophone countries, slightly less than a quarter of respondents report these events while their income falls below any income threshold. Births are very frequent in the UK, and retirement is overrepresented in Australia. Despite not providing any explanation for the discontinuities in subjective well-being documented above, these bar charts implicitly point out to the strengths and weaknesses of the various welfare states at study. In France, divorced individuals and in particular lone parents are falling through the social safety net. In Germany, it is inactivity that leads to poverty, while there is a lack of support for young parents in the United Kingdom.

I then proceed to studying the differential impact of life and labor market transitions on respondents enduring negative income shocks at any income threshold. I examine two aspects of this impact, referred to as either direct or indirect effects. The direct effect corresponds to the impact of any event on life satisfaction, which might explain the drops and kinks in life satisfaction observed at various income thresholds. I include these events in the main specifications as controls, both separately and collectively, and examine the consecutive variation of the coefficients of interest. Since I cannot present the results for all coefficients comprised between 50 and 110% of the median income, I select the lowest coefficient associated with loss of income, meaning the most negative coefficient, which is 84% of the median income for France, 78% for Australia, 67% for the UK, and 54% for Germany. The results are presented in Table 1.4 for all countries under study. Column (1) exhibits the reference value of the coefficient, corresponding

to the α value of Equation (4), with only static sociodemographic controls. Then, from column (2) to column (6), I add the most frequent life and labor market events — unemployment, inactivity, retirement, separation, and birth — one by one to the regression, and then altogether in column (7). The magnitude of the coefficients varies slightly as a result, but does so differently in each country. In Germany, the coefficient of interest becomes less negative as a result of including inactivity and birth, meaning that these two events are affecting life satisfaction negatively. In other words, controlling for these events reduces the drop in satisfaction observed at the most acute point, so it might slightly explain it. In France, unemployment and separation are the two events that reduce the magnitude of the coefficient in absolute terms. In the UK and in Australia, the coefficient barely evolves.

TABLE 1.4 – Changes in Lowest Coefficient of Falling Below Income Threshold with the Inclusion of Life Event Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Germany : Fell below 54% of median income	-0.171*** (-4.56)	-0.170*** (-4.53)	-0.166*** (-4.43)	-0.171*** (-4.57)	-0.171*** (-4.55)	-0.160*** (-4.27)	-0.157*** (-4.18)
Australia : Fell below 78% of median income	-0.150** (-3.01)	-0.148** (-2.96)	-0.150** (-3.01)	-0.151** (-3.02)	-0.153** (-3.06)	-0.150** (-3.01)	-0.150** (-3.01)
France : Fell below 84% of median income	-0.335*** (-4.90)	-0.325*** (-4.79)	-0.335*** (-4.91)	-0.335*** (-4.90)	-0.322*** (-4.72)	-0.337*** (-4.93)	-0.314*** (-4.63)
UK : Fell below 67% of median income	-0.302*** (-6.60)	-0.302*** (-6.60)	-0.299*** (-6.53)	-0.301*** (-6.59)	-0.300*** (-6.55)	-0.302*** (-6.59)	-0.297*** (-6.49)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Event : Unemployed	No	Yes	No	No	No	No	Yes
Event : Inactive	No	No	Yes	No	No	No	Yes
Event : Retired	No	No	No	Yes	No	No	Yes
Event : Separated	No	No	No	No	Yes	No	Yes
Event : Birth	No	No	No	No	No	Yes	Yes
Observations - Germany	72840	72840	72840	72840	72840	72840	72840
Pseudo R^2 - Germany	0.072	0.072	0.073	0.072	0.072	0.073	0.073
Observations - Australia	31162	31162	31162	31162	31162	31162	31162
Pseudo R^2 - Australia	0.074	0.075	0.074	0.075	0.075	0.075	0.076
Observations - France	15692	15692	15692	15692	15692	15692	15692
Pseudo R^2 - France	0.077	0.077	0.077	0.077	0.078	0.077	0.078
Observations - UK	36475	36475	36475	36475	36475	36475	36475
Pseudo R^2 - UK	0.098	0.099	0.099	0.099	0.099	0.099	0.099

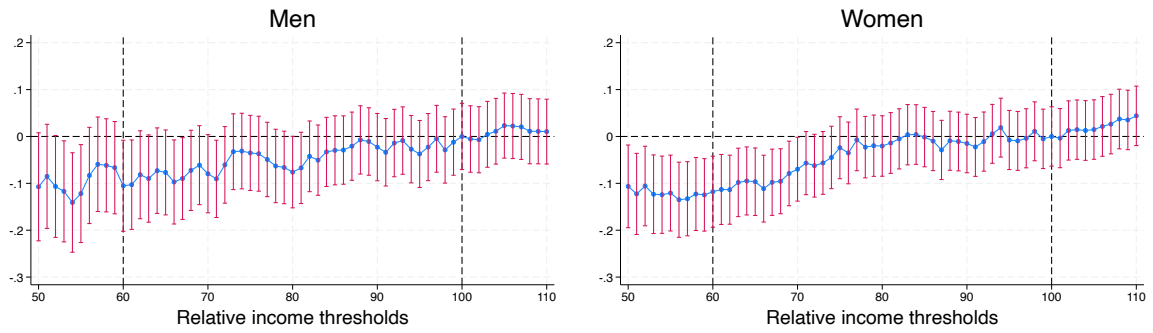
t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

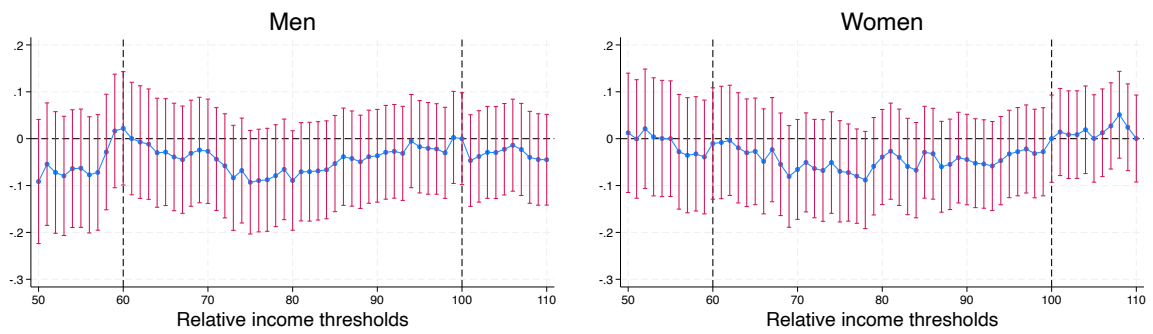
Lecture : This table presents the results of the direct effect of life events on life satisfaction. The selected coefficient for each country corresponds to the lowest coefficient associated with income loss, meaning the most negative coefficient, evaluated at 84% of the median income in France, 78% in Australia, 67% in the United Kingdom, and 54% in Germany. Column (1) shows the reference value of the coefficient (α in Equation (4)) with only static sociodemographic controls. Columns (2) through (6) successively add the most frequent life and labor market events — unemployment, inactivity, retirement, separation, and birth — one by one in the regression, and then all together in column (7).

In order to further explore the indirect effect of these events, I plot the correlation between each of these events and dummy variables corresponding to a transition to poverty at the bottom of the distribution in

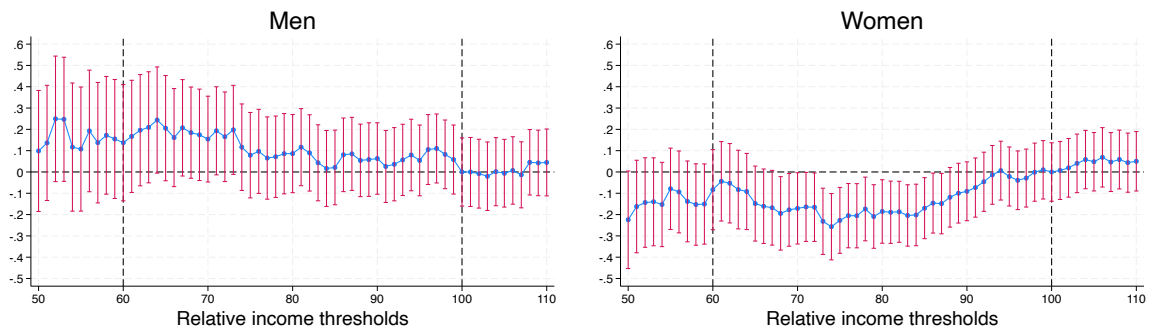
Figure 1.7. Indeed, life and labor market events could be the cause of negative income shocks, subsequently leading to more or less significant drops in life satisfaction depending on individuals' positions in the income distribution. Each coefficient represents the likelihoods of four life and labor market events when crossing income thresholds between 50% and 110% of the median income, common to all countries in the data : unemployment, retirement, separation, and birth. The first column displays the point estimates associated with entry into poverty at each threshold for the first event (unemployment), and so forth for each subsequent event and column. A noteworthy observation is that all these events are positively and significantly correlated with the likelihood of income loss in every country. Notably, certain transitions, such as unemployment, exhibit significantly higher coefficients around 80% of the median income for France and 60% of the median income for Germany and the United Kingdom. This bell-shaped curve, peaking around 80% of the median income, suggests that individuals becoming unemployed are more likely to fall below the relative income threshold of 80% of the median income compared to those staying employed. This pattern aligns symmetrically with the observed drop in satisfaction around 80% of the median income for France, implying that the impact of certain transitions associated with entry into poverty at this point in the income distribution may contribute to the decline in satisfaction. As for retirement, it does not appear more prevalent at the bottom of the income distribution, except for Germany. However, it seems more correlated with negative income shocks below 60% of the median income, as revealed in Figure 1.6. The profile of the impact of separations generally does not explain the main graph's pattern. Surprisingly, for all countries, the correlation between birth and negative income shock at the household level is higher as we move up the income distribution. In order to better understand the effect linked to birth, we would have to split the sample between men and women, since the impact is likely to be very different across genders. Indeed, as Meurs and Pora (2019) show, the child penalty is particularly pronounced for women at the lower end of the income distribution, while it almost entirely disappears for richer women : they document a persistent 20% decrease in labour market participation over 10 years and a 40% decrease in income, while the effect for men is opposite. However, testing this hypothesis would require larger samples, as we risk obtaining non-significant results when restricting the analysis by gender and income threshold for those who lose income. More generally, while the best candidate explanation for observed life satisfaction drops varies from one country to the next, unemployment appears to play a significant role.



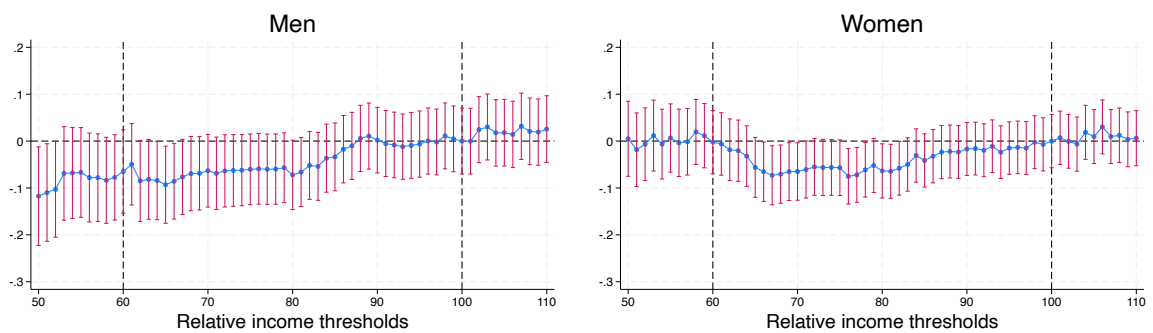
(a) Germany



(b) Australia



(c) France



(d) United-Kingdom

FIGURE 1.5 – Negative income shocks – Heterogeneity by Gender

Note : The graphs present the results of the regressions of the change in life satisfaction on income loss as each of the relative monetary thresholds is crossed, separately for women and men. All coefficients are rescaled for comparison, with a level set at 0 for the regression corresponding to the median income (the dashed line at 100).

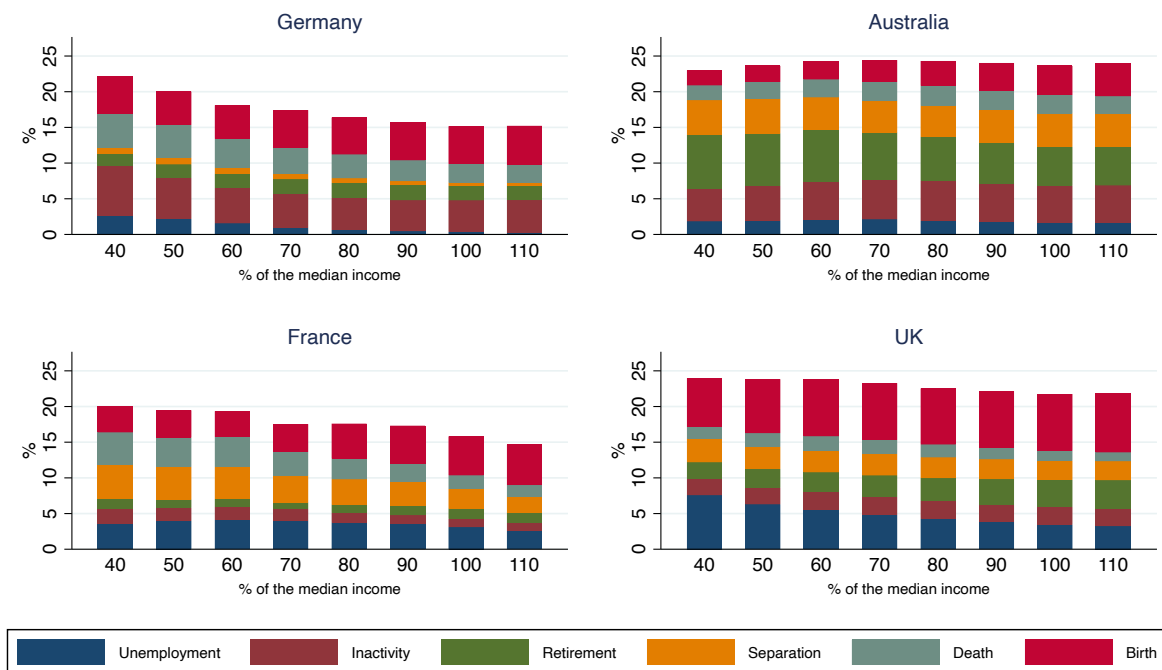


FIGURE 1.6 – Proportions of sociodemographic transitions at each income threshold

Lecture : In Germany, among respondents who fell below the 40% of the median income threshold, approximately 2% became unemployed, 7% became inactive, 1% retired, 0.5% separated, 4% experienced a death in the family, and 4% gave birth to a child.

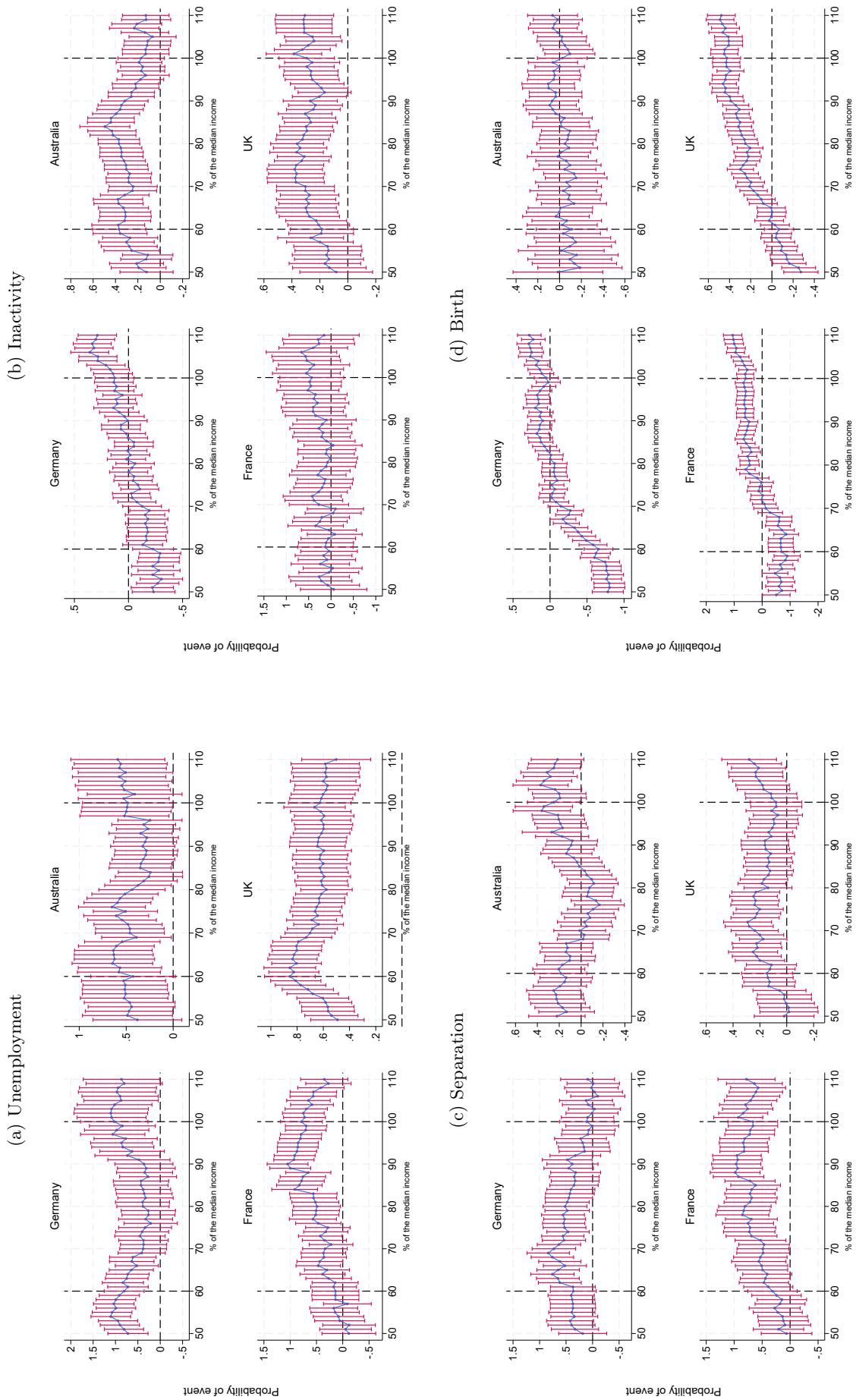


FIGURE 1.7 – Impact of sociodemographic transitions at each income threshold on entry into poverty

Lecture : For each sociodemographic event above, samples are chosen to ensure comparability across individuals. For instance, looking at unemployment, the regressions are restricted to individuals that were in employment in year 1 ; looking at separation, to individuals who were in couple in year 1.

On top of these four life and labor market events, I exploit other variables relative to recent events that are available in the French and Australian databases. HILDA is the richest dataset at study in this respect : respondents are asked about the occurrence of a major worsening in finances, whether they got fired or changed jobs ; as for life events, they are asked whether they got injured or sick, jailed, pregnant, whether they changed residence, or had to deal with property crime or physical violence. In France, questions relate to changes within households : respondents are asked about departures and arrivals of a child, a person with and without income. I also consider the occurrence of disability. I observe contrasted profiles for the correlation between some event and the occurrence of a negative income shocks. Interestingly, Australian respondents declare having undergone a major worsening in finances specifically when they fall below 80% of the median income. The role of inactivity is also very visible from the graph, while unemployment seems to occur more a little lower along the income distribution, around 60% of the median income. As for the direct impact of life and labor market events on life satisfaction, I update Figure 1.3 by including each event one by one to see whether it compensates or not the drop in satisfaction. I do not reproduce the many figures in this paper, but they are available on demand. From the graphs, I observe that only controlling for professional transitions partly offsets the gap in satisfaction. Indeed, including the event of changing jobs in the regression for Australian respondents slightly reduces the gap. On the opposite, restricting the sample to couples who break up or become single-parent families, we get a gap in satisfaction which is even larger. Finally, adding up all events to the main regression for each country, I find that Germany and the UK's profiles of the relationship between negative income shocks and life satisfaction are left unchanged, while the observed gap at 80% of the median income for France and Australia is a little lower in magnitude.

V.2 Welfare state regimes and institutional differences

Lastly, it is worth asking whether differences in welfare regimes are responsible for the observed contrasting trends in life satisfaction across countries. It could indeed be the case that the change in the composition of disposable income following a negative income shock, especially the increase in the share of benefits, might alter one's perceived vision of their financial situation. Indeed, claiming and receiving social assistance is often associated with stigma, as shown in the literature (see, for instance, the famous work by Paugam (2009) in France or the study by Baumberg (2016) for the UK). Redistribution policies generally increase the share of the population whose standard of living is near the median, but they do so differently depending on the welfare regime. In the wake of Esping-Andersen (1990)'s typology, Zemmour et al. (2019) study how the socio-fiscal system modifies the distribution of incomes relative to the median. After redistribution, the peak (or the mode) of the income distribution approaches the median, and the proportion of the population receiving an income close to the median income increases. According to their typology, Anglophone countries, particularly the UK, feature high redistribution and significantly densify their population around the median over a relatively broad range (0.4 to 1.7 of median income). Australia has low densification around the median (as shown in Figure 1.2) due to a broad target and low-intensity redistribution, mainly reducing poverty rates through social transfers and tax credits for low-income households. France and Germany, among continental countries, exhibit significant redistributive effort and

substantially increase the share of their population around the median income, while transfers at the bottom of the income distribution are targeted within a more restricted range (between 0.5 and 1.5 of median income). As recently evidenced by Blanchet et al. (2022), who compared European countries to the United States, total transfers received by the bottom 50% of individuals by country (as a percentage of national income) are highest in France, followed by Germany, and then the United Kingdom. In terms of net redistribution, meaning the gap between pre-transfer and post-transfer income, the UK ranks first, due to its initially very unequal income distribution.

Benefits are generally conditional on a certain level of disposable income, depending on household composition, and the income thresholds that activate or delimit access to universal assistance vary significantly between France, Germany, the United Kingdom, and Australia due to differing welfare state models and policy priorities. In France, the *Revenu de Solidarité Active* (RSA) provides a base level of income, with additional support decreasing as other income increases (the *Prime d'activité*). As of 2019, for a single person, the threshold is around 559.74 euros per month, with higher amounts for households with more members. Benefits like RSA and housing aid (*Aide personnalisée au logement*) decrease as income increases, ensuring that only those with incomes below a certain level receive full benefits. In Germany, *Hartz IV* targets those with incomes below a minimum subsistence level, with benefits decreasing gradually as income increases to maintain support for low-income individuals and families. For a single person, the standard rate is 424 euros per month as of 2019, with additional amounts for children and other household members. The assistance amount decreases as earned income increases. There is a basic exemption for a small part of the income, but beyond that, benefits are reduced gradually to ensure support is targeted at those most in need. In Australia, the *Job Seeker Payment* constitutes the main benefit, designed to support those with very low incomes while encouraging employment. For a single person without children, the income threshold is around 104 dollars per fortnight (as of 2023). Finally, the *Universal Credit* in the UK is designed to provide support to low-income earners, with a marginal rate of 63% to encourage employment while still providing financial assistance.

To explore institutional differences in terms of transfers, I distinguish between access to benefits and the level of these benefits by plotting the average share of households composed of a single individual receiving a benefit by post-transfer income in Figure 1.8, and examining the average composition of disposable income (the share of benefits received among disposable income) depending on post-transfer income in Figure 1.9.¹⁷ The coverage of households at the bottom of the income distribution who receive benefits overall is larger in France, where housing benefits and social benefits are particularly developed. In Germany, unemployment benefits are the most important type of benefit and act as a social benefit. They are much more reduced in Anglophone countries, particularly in Australia, where there is no universal assistance system but rather schemes that are more scattered and targeted to specific situations (single-parent families, young unemployed, etc.). However, as shown in Figure 1.9, Australia and the UK exhibit higher levels of benefits since the difference observed between pre- and post-transfer incomes is the highest around the usual monetary poverty threshold at 60% of the median income. The levels then decrease steeply for Australia and more progressively in the UK. In France and Germany, the share of

17. Similar figures for lone parents, and couples with or without children are available in the Appendix.

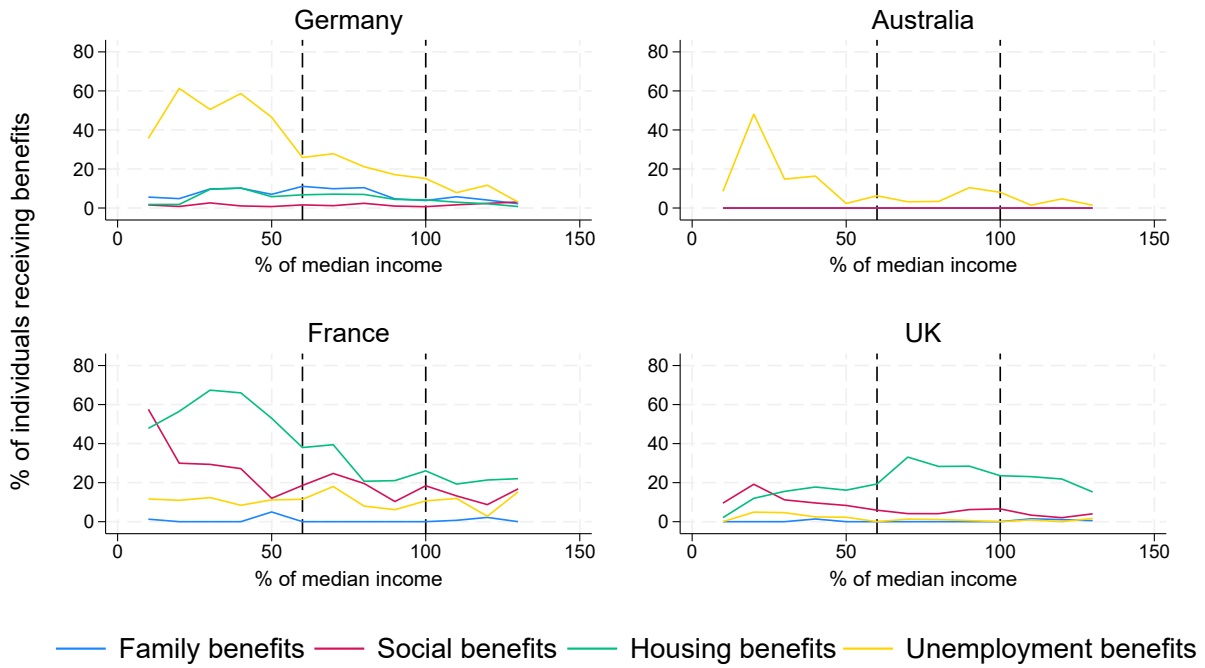


FIGURE 1.8 – Shares of single-individual households receiving benefits by post-transfer income

Source : Single-person households in all years (2010–2019).

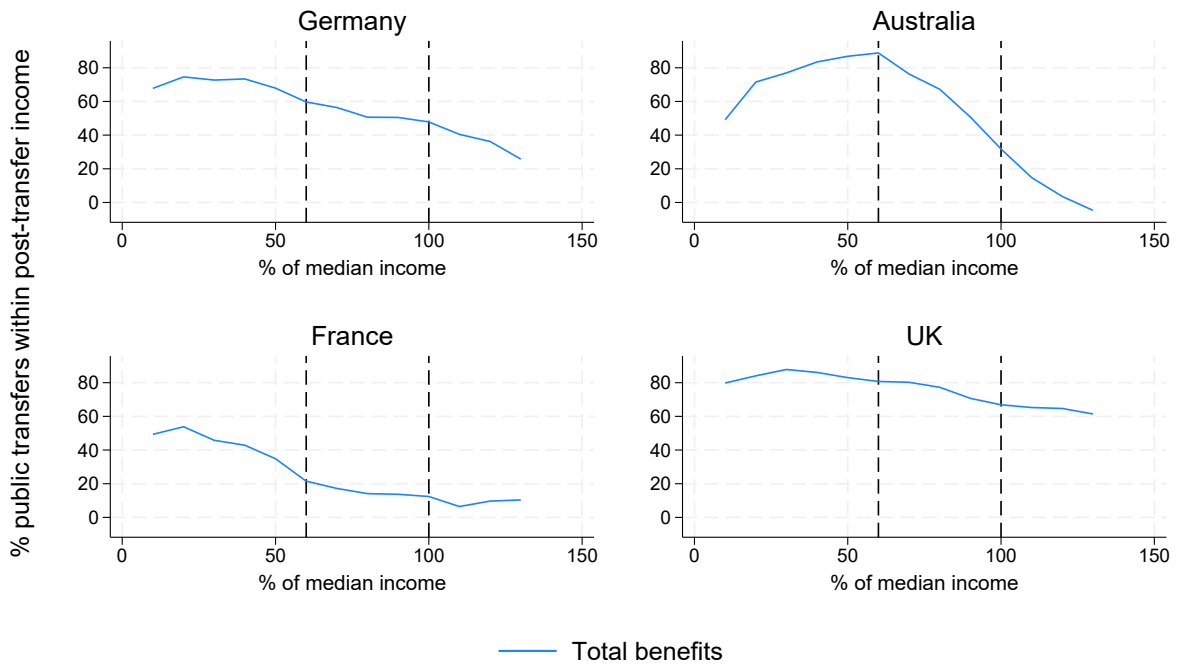


FIGURE 1.9 – Shares of benefits in total disposable income of single-individual households by post-transfer income

Source : Single-person households in all years (2010–2019).

benefits is high below 60% of the median income and starts decreasing afterward. Notably, we do not

observe any change in slope that would coincide with the lowest levels of well-being reported in the main figure of this paper, suggesting that increases in benefits associated with a negative income shock are unlikely to provoke the drop in reported life satisfaction for these countries.¹⁸

V.3 Characteristics of the poor

TABLE 1.5 – Characteristics of poor people

	Germany		Australia		France		UK	
	60%	70%	60%	80%	60%	80%	60%	70%
Sex								
Men	46.38	46.38	45.52	47.13	44.79	43.18	44.74	43.60
Women	53.59	53.60	54.48	52.87	55.21	56.82	55.26	56.40
Age								
16-30 y.o.	29.69	20.18	17.64	19.79	28.59	20.54	22.69	20.33
30-45 y.o.	20.88	20.85	13.76	27.33	21.00	21.66	20.19	20.67
45-60 y.o.	18.34	17.55	17.78	19.40	24.99	21.13	24.19	18.90
More than 60 y.o.	31.08	41.43	50.82	33.48	25.42	36.67	32.93	40.10
Subjective variables								
Satisfaction with life (0-1)	0.68	0.71	0.77	0.78	0.65	0.68	0.64	0.65
Satisfaction with income (0-1)	0.53	0.60	0.50	0.48	0.33	0.39	0.61	0.65
Self-assessed health (1-5)	3.20	3.22	2.87	3.11	3.60	3.54	3.10	3.04
Activity status								
Employed	33.85	44.55	24.43	50.07	30.74	40.44	33.83	38.05
Unemployed	15.79	6.71	6.92	6.16	15.64	8.00	13.00	4.65
Students	7.49	3.67	2.82	2.86	16.98	8.37	8.84	6.46
Retired	22.75	31.40	48.09	29.60	22.05	34.88	28.14	36.45
Inactive	13.04	9.34	17.49	11.31	14.59	8.31	14.81	13.15
Family type								
Single	46.59	35.28	30.65	12.79	31.76	29.75	28.36	23.63
Lone parent	11.85	7.85	17.06	16.63	16.80	14.25	6.98	6.75
Couple w/o children	17.85	27.45	29.03	23.71	13.15	23.60	26.93	29.31
Couple w children	20.12	27.36	18.59	43.18	35.50	30.34	24.44	25.99
Other family type	3.59	2.06	6.94	4.91	2.79	2.06	13.29	14.32
Government transfers								
Family benefits	33.31	37.02	16.67	31.06	44.30	33.89	23.64	26.18
Housing benefits	7.32	6.67	.	.	59.16	34.75	13.10	19.46
Social benefits	1.55	1.59	0.00	0.00	46.59	26.21	11.46	10.46
Unemployment benefits	36.98	15.94	11.46	6.58	13.90	13.56	3.32	1.47
Observations	6187	1997	2850	1826	2642	3367	3450	1717

Lecture : This table presents the characteristics of individuals classified as poor based on a 60% monetary income threshold (first column in each country) and those of individuals deemed economically vulnerable, whose income falls between 60% and either 70% or 80% of the median income, depending on the country (second column). This comparison highlights the differences between the two populations. All figures are percentages for the year 2019, except for subjective variables. Life satisfaction and income satisfaction are rescaled to range from 0 to 1 for better comparability. Self-assessed health is harmonized across countries, with values ranging from 1 to 5.

18. One of the blind spots of this study, however, concerns the distribution of public goods at the lower end of the income distribution, which plays a significant role in the understanding of poverty. Public goods can particularly reconcile the monetary approach to poverty with the well-being approach, because public services are major determinants of the observed differences between countries in terms of health, education, and other non-monetary dimensions of quality of life, as shown by Gethin (2023).

Finally, I compare the average sociodemographic characteristics of individuals classified as poor at the 60% of the median income threshold with the characteristics of individuals who are slightly less deprived but whose subjective well-being is the lowest. These individuals can therefore be defined as *economically vulnerable* and should be slightly less deprived than the poor. Similar to Table 1.4 above, I select the most negative coefficient, which is 67% for Germany and the UK, 78% for Australia, and 84% for France. I round them to the nearest ten, which is 80% for France and Australia, and 70% for Germany and the United-Kingdom. For each country, the second column thus presents the characteristics of individuals whose equivalised disposable income lies between 60% of the median income and the corresponding income threshold. The economically vulnerable population (column 2) is somewhat similar to the monetarily poor population (column 1) in each country, but with noticeable differences. There is a notable shift in age distribution between different poverty thresholds, particularly with a higher percentage of older individuals (more than 60 years old) among those classified as poor at the 70% or 80% threshold compared to the 60% threshold, suggesting that older individuals are less poor in Germany, France and the UK. Conversely, in Australia, older people are worse-off, as their share decreases with increasing income distribution. Generally, these economically vulnerable individuals receive fewer benefits (except for family benefits, since single-individual households are generally overrepresented at the bottom of the income distribution). Looking at subjective variables, it is interesting to see that satisfaction with income is slightly higher among the monetarily poor than among people who are objectively better-off in terms of income. Self-assessed health is also lower among respondents who are above the 60% income threshold, which might reflect the higher share of older individuals.

VI Conclusion

Examining how variations in life satisfaction dynamics respond to transitions in and out of poverty brings interesting patterns to light. In Australia and in France, respondents seem to mostly suffer from a negative income shock that precipitates them below 80% of the median income than anywhere else in the income distribution, as can be seen from the clear empirical discontinuity observed around this threshold. In Germany and in the UK, income losses appear more painful a little lower down the income distribution (the most negative coefficients are located between 60 and 80% of the income distribution for the UK, and between 50 and 70% of the income distribution for Germany). When looking at positive income shocks, or transitions out of poverty, the threshold at 60% of the median income matters to all respondents, but the observed pattern is flatter. I attempt to provide explanatory insights into this phenomenon of empirical discontinuities in the relationship between income and subjective well-being by examining the simultaneous correlation of life and labor market events, and the interaction with the institutional system in terms of perceived social benefits. Observed patterns differ for each country under study, highlighting the role of unemployment for negative income shocks around 80% of the median income for France, and the role of inactivity in Germany around 50% of the median income. Regarding the United Kingdom and Australia, these events do not compensate for the drop in life satisfaction observed at 78% and 67% of the median income respectively, despite the more frequent occurrence of unemployment and inactivity

at these thresholds, as well as separation for the UK. This leads to important policy implications, with the idea that depending on where individuals are located in the income distribution, demographic and professional events can be more or less detrimental to them, i.e. leading them at a lower or faster pace into poverty. These findings are also in line with recent work that some events, such as separation or birth, speed up transitions in and out of poverty, which is also highly dependent of one's past situation regarding poverty (Beck et al., 2014). By contrast, I do not observe any clear link between access to social benefits provoked by negative income shocks and lower well-being.

A key message of this work is that combining the monetary dimension of poverty with the perception of one's overall situation can help illuminate certain aspects and improve our understanding of the phenomenon. In particular, the discontinuities between income and well-being emphasized in this work could help question the monetary thresholds in use in order to identify the economically vulnerable population within a country. While the harmonized 60% monetary threshold is certainly a useful benchmark for cross-country comparisons of the bottom tail of the income distribution, it would benefit from being complemented by a range of additional thresholds that are less conventional and more aligned with people's experiences of poverty and precarity. According to Ponthieux (2004), one should not rely solely on a single monetary threshold due to the high concentration of households earning between 50% and 80% of median income, especially in France. Indeed, criticisms of using a single threshold often highlight the sensitivity of the distribution to the types of income considered (e.g., assets) and to errors in measuring income and estimating equivalence scales. A suggestion in the case of France would be to use one threshold for extreme poverty, such as the threshold identified by Blasco (2023), which combines monetary poverty at 50% of the median income with material and social deprivation, and one for economic vulnerability or insecurity around 80% of the median income, which represents a clear inflection point in several countries. This level of threshold is meant to objectify a drop-off that is frequently observed in research. For instance, it is close to the 75% of median income threshold established by the OECD in its report to identify the lower middle class (OECD, 2019), and in absolute terms, it coincides in France with the level of reference budgets highlighted by the ONPES (Alberola et al., 2014). The use of both thresholds for measurement purposes over time would provide a more complete and accurate picture of what is poverty, thanks to the fruitful combination of objective and subjective aspects.

Future research might need to focus on getting more hindsight on the evolution of individuals' satisfaction and income trajectories in parallel, in order to determine the role of persistence in poverty for instance on the evolution of life satisfaction. Indeed, it could be the case that the drop in subjective well-being at 80% of the median income is the result of people's past experience regarding poverty. Another aspect that would be important to explore, and which is missing from this study, is the variation in intra-household satisfaction. By construction, the dual entry level of individuals and households imposes the characteristics of individuals and the households they live in as two groups of explanatory factors, given the gap between individual-level satisfaction and household disposable income. We still do not know how to measure monetary poverty at the individual level. Defining poverty at the individual level leads to neglecting the interactions between salary and family resources, which are unlikely to be equally shared among individuals within the household, hence the importance of highlight gendered patterns.

Appendix

Liste des sous-échantillons présents par année de collecte :

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
17											
18	18										
19	19	19									
20	20	20	20								
21	21	21	21	21							
22*	22	22	22	22	22						
23*	23*	23	23	23	23	23					
24*	24*	24*	24	24	24	24	24				
25*	25*	25*	25*	25	25	25	25	25			
	26*	26*	26*	26*	26	26	26	26	26		
		27*	27*	27*	27*	27	27	27	27		
			28*	28*	28*	28*	28	28	28		
				29*	29*	29*	29*	29	29		
					30*	30*	30*	30*	30		
						31*	31*	31*	31*		
32								32*	32*	32*	32*
									33*	33*	33*
										34*	34*
											35*

32	N° du sous-échantillon
	Entrants
*	Interrogation obligatoire

Questionnaire Réinterrogation

Questionnaire 1 ^{ère} interrogation

FIGURE 1.10 – Overview of Data Architecture and Subsamples

Source : Dictionnaire des codes SRCV 2020.

TABLE 1.6 – Characteristics of respondents to subjective questions in France

	General population	Respondents to life satisf.	Diff.	Std. Error
Sex				
Men	0.476	0.439	0.037***	0.002
Women	0.524	0.561	-0.037***	0.002
Age				
16-30 y.o.	0.195	0.130	0.065***	0.002
30-45 y.o.	0.221	0.229	-0.008***	0.002
45-60 y.o.	0.265	0.276	-0.011***	0.002
More than 60 y.o.	0.320	0.365	-0.046***	0.002
SP category				
Farmers	0.011	0.010	0.001	0.000
Craftspeople	0.027	0.024	0.003***	0.001
Executives	0.087	0.088	-0.001	0.001
Intermediate	0.134	0.141	-0.007***	0.001
Employees	0.150	0.162	-0.012***	0.001
Workers	0.125	0.114	0.011***	0.001
Students	0.091	0.042	0.050***	0.001
Highest diploma				
3-year degree and +	0.114	0.120	-0.007***	0.001
2-year degree	0.086	0.092	-0.007***	0.001
Bachelor degree or eq.	0.133	0.132	0.001	0.001
Vocational certificate	0.180	0.192	-0.011***	0.002
Middle-school degree	0.061	0.052	0.009***	0.001
No diploma	0.159	0.171	-0.012***	0.002
Activity status				
Employed	0.481	0.481	-0.000	0.002
Unemployed	0.062	0.061	0.001	0.001
Retired	0.306	0.352	-0.046***	0.002
Inactive	0.061	0.065	-0.004***	0.001
Matrimonial status				
Single	0.161	0.200	-0.039***	0.002
Lone parent	0.084	0.076	0.008***	0.001
Couple w/o children	0.323	0.350	-0.027***	0.002
Couple w children	0.401	0.350	0.052***	0.002
Other family type	0.031	0.025	0.006***	0.001
Government transfers				
Family transfers	0.321	0.286	0.036***	0.002
Housing transfers	0.214	0.213	0.001	0.002
Social transfers	0.124	0.118	0.007***	0.001
Poverty status				
Poor at 60% of median income	0.124	0.120	0.004***	0.001
Poor in living conditions	0.112	0.109	0.003**	0.001
Size of urban area				
Rural town	0.401	0.400	0.001	0.002
Middle town	0.194	0.195	-0.001	0.002
Big city	0.294	0.300	-0.005***	0.002
Paris and suburbs	0.110	0.105	0.005***	0.001

Note : SRCV 2010–2019. This table presents the average characteristics of the general population of respondents compared to the characteristics of respondents regarding life satisfaction. Columns 1 and 2 are presented as percentages, with all numbers summing to 1 within each category, except for poverty status. Column 3 shows the difference between mean characteristics and the associated significance level. Column 4 reports the standard error of the difference.

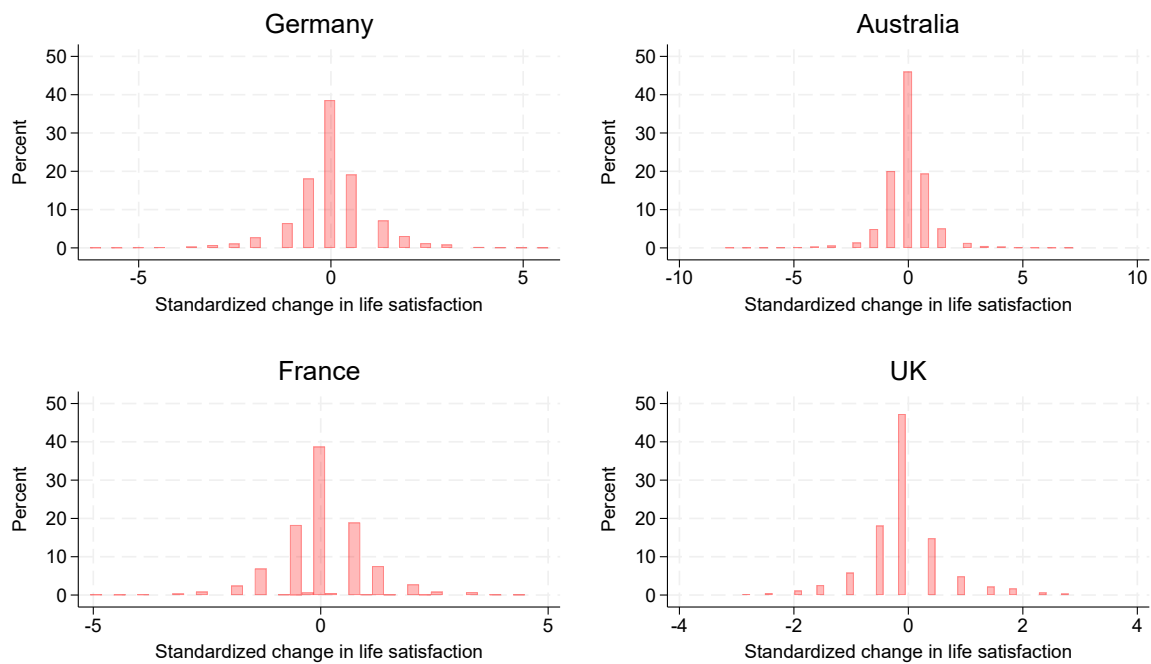


FIGURE 1.11 – Distribution of standardized change in life satisfaction in 2019

Note : The histograms represent the distribution of the standardized change in life satisfaction between 2018 and 2019.

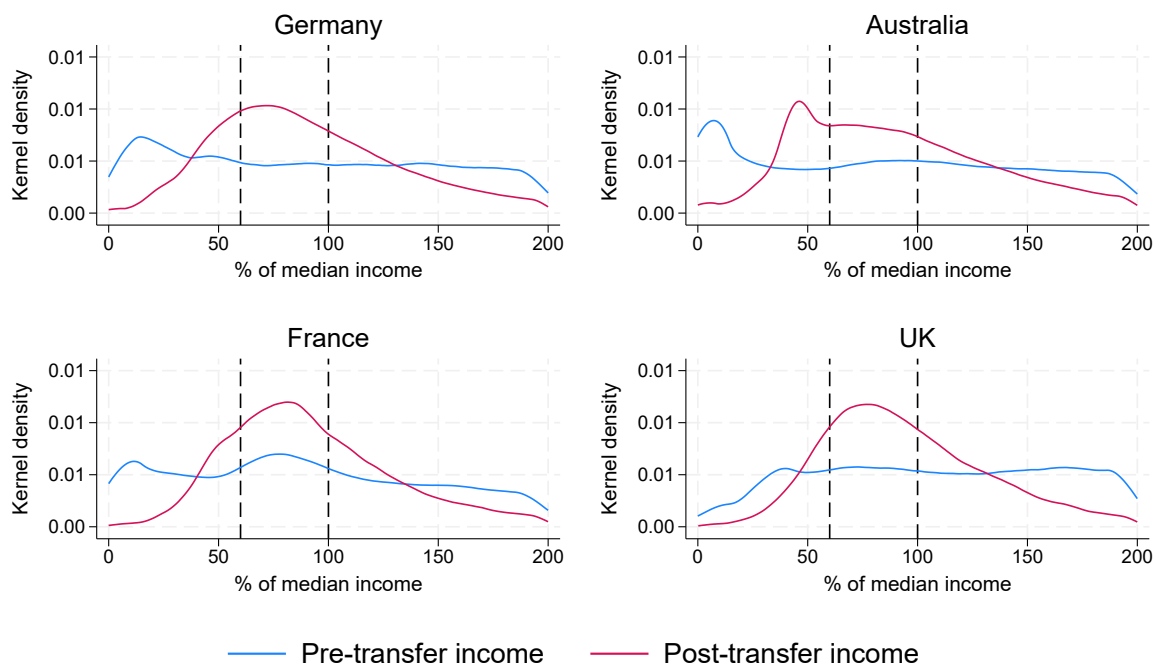


FIGURE 1.12 – Densities of pre-transfer and post-transfer income

Note : All years (2010 to 2019). Densities are capped at twice the median income.

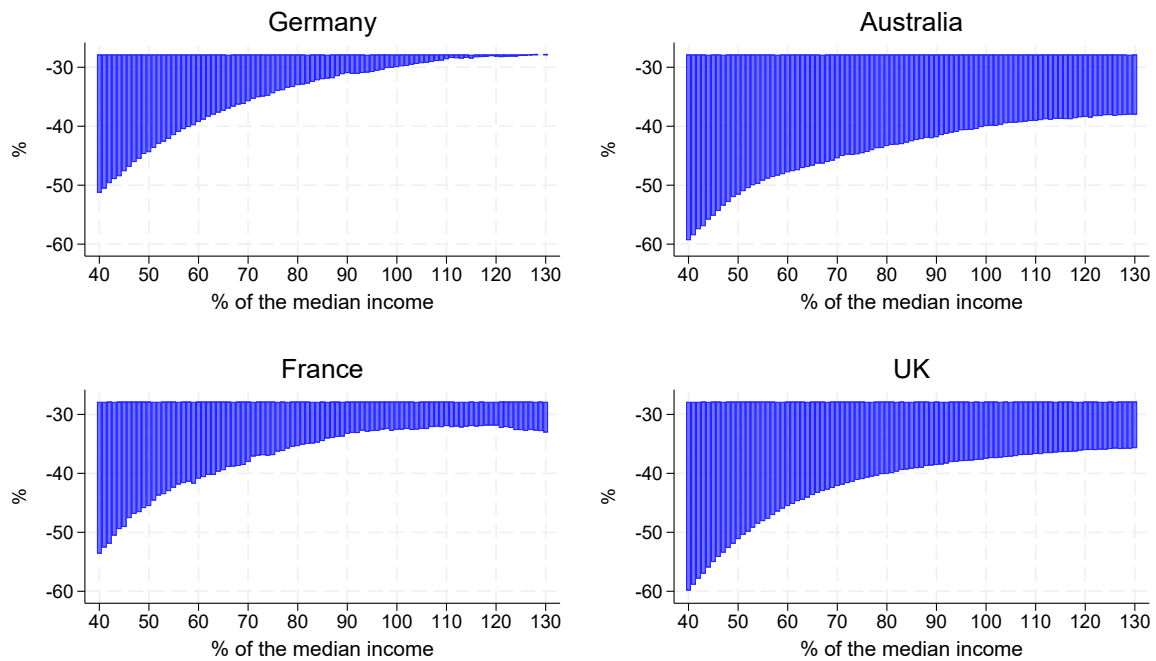


FIGURE 1.13 – Mean relative income losses by income threshold

Note : All years (2010 to 2019). On average, German respondents whose income falls below 40% of the median income in year t lose about 50% of their income in year $t - 1$.

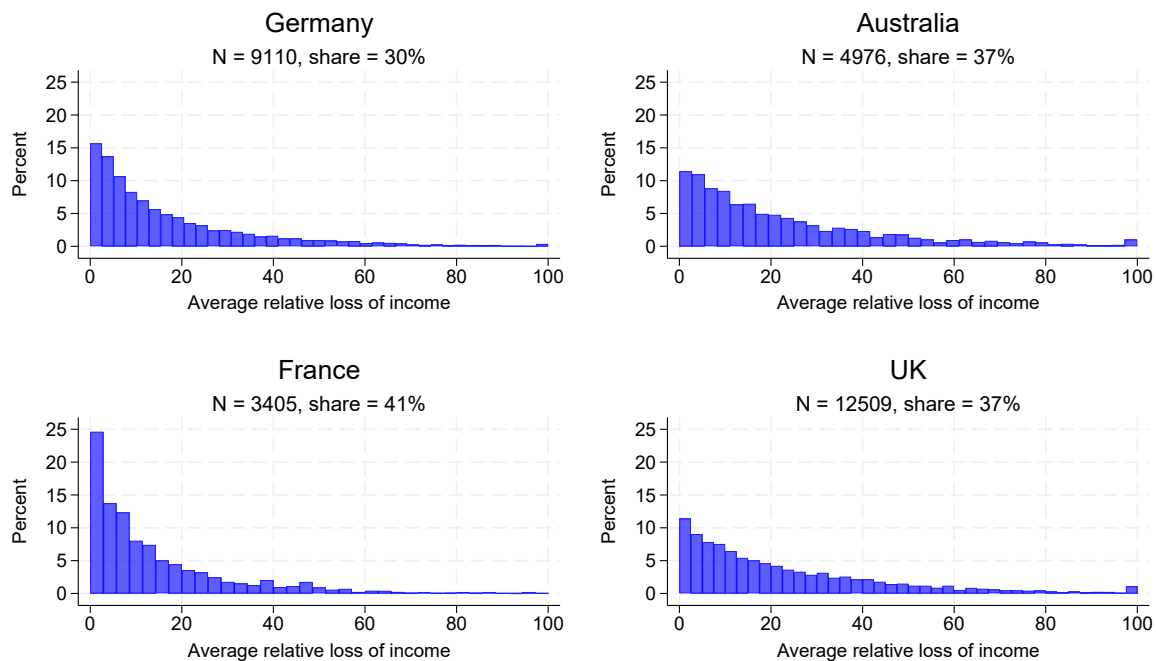


FIGURE 1.14 – Average relative loss of income for respondents experiencing a negative income shock

Note : All years (2010 to 2019).

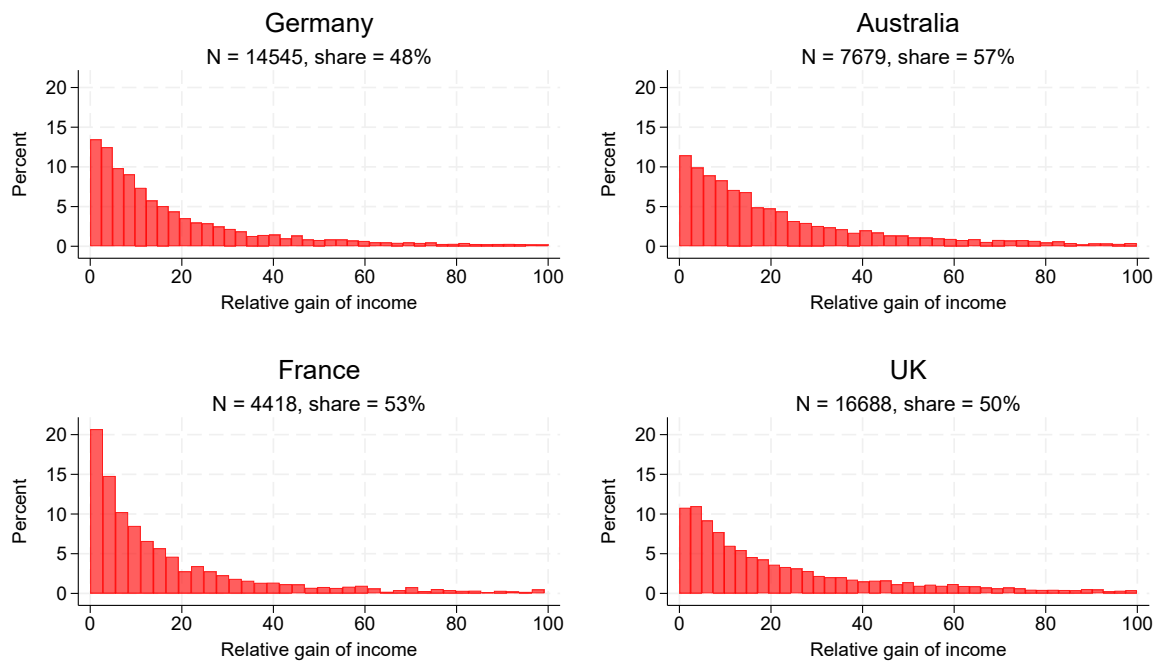


FIGURE 1.15 – Average relative gain of income for respondents experiencing a positive income shock

Note : All years (2010 to 2019).

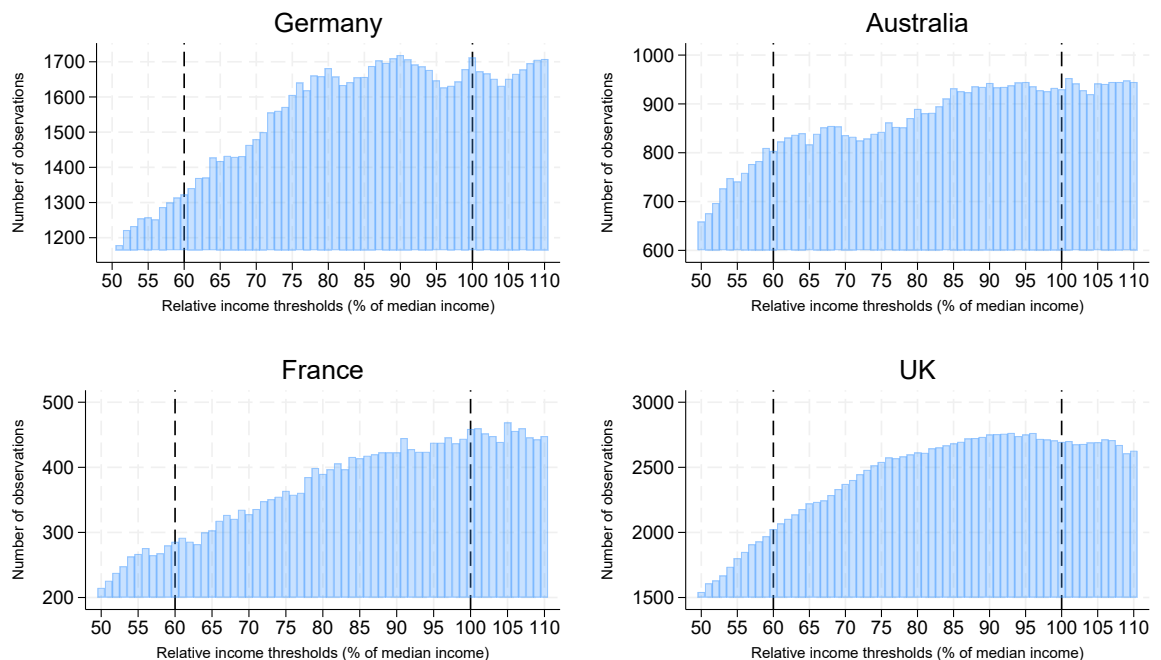


FIGURE 1.16 – Number of respondents falling below each income threshold by country

Lecture : in Germany, 15% of the 9110 individuals who experienced a negative income shock between 2018 and 2019 lost 2 to 4% of their income. In France, 25% of the 3405 individuals who experienced a negative income shock between 2018 and 2019 did so.

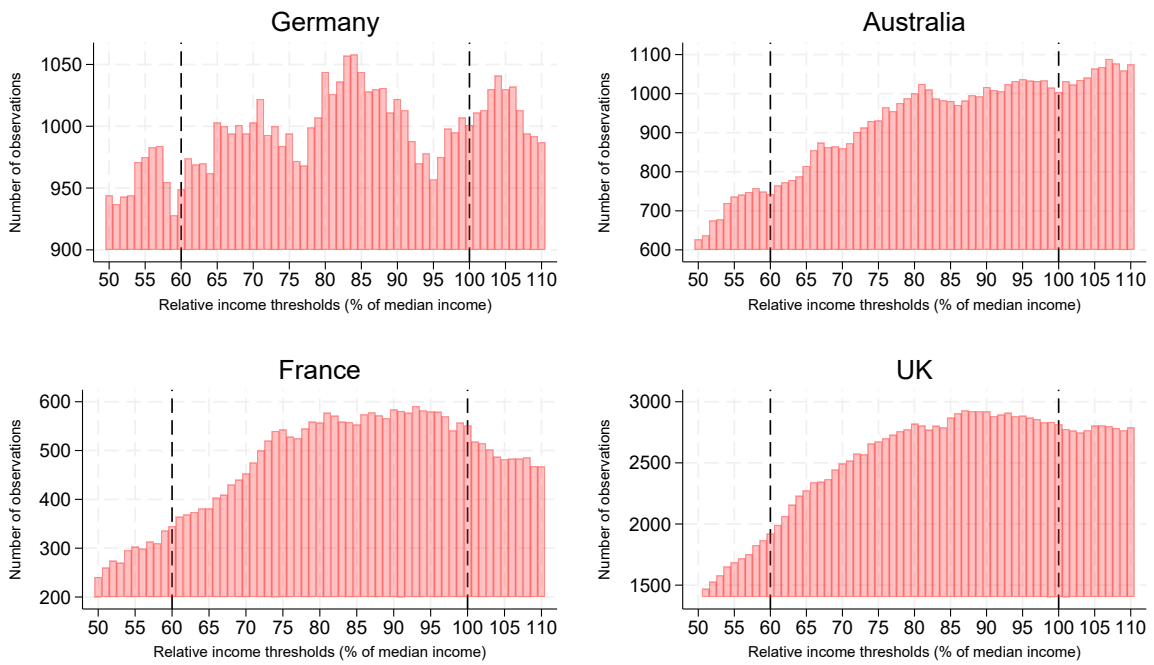
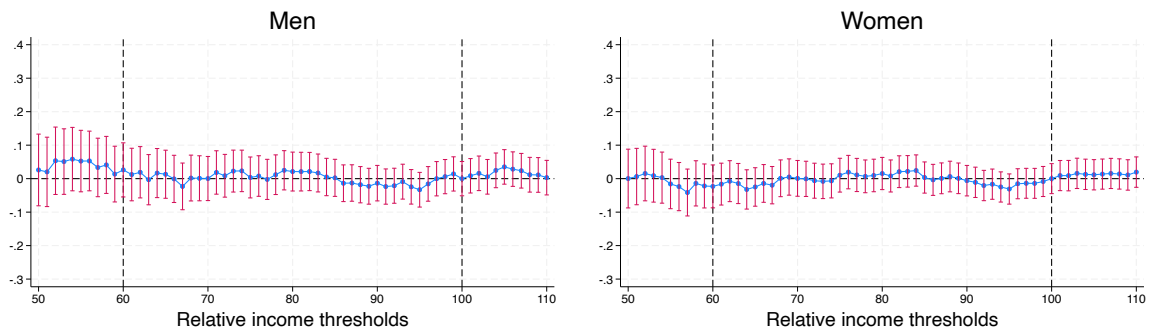
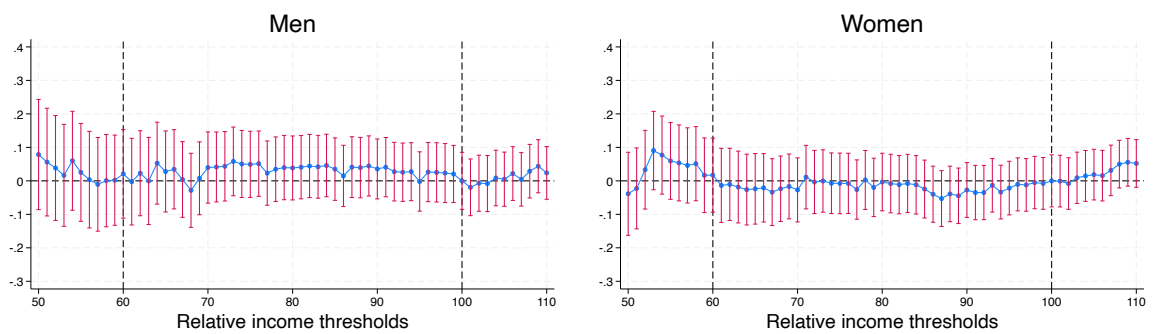


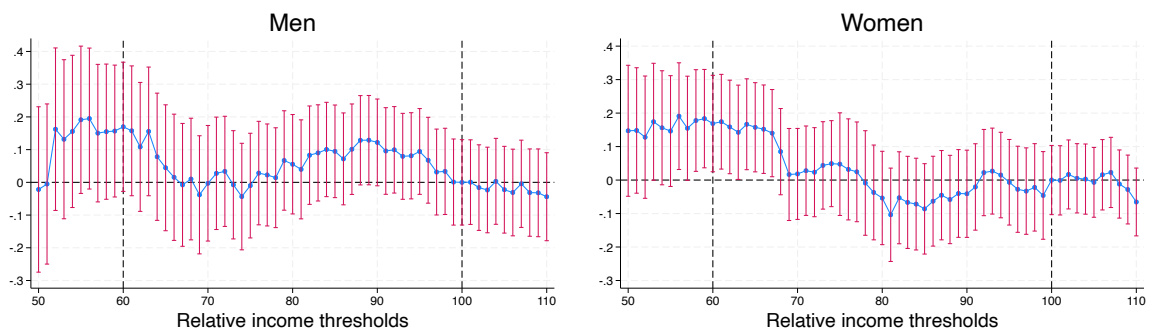
FIGURE 1.17 – Number of respondents jumping above each income threshold by country



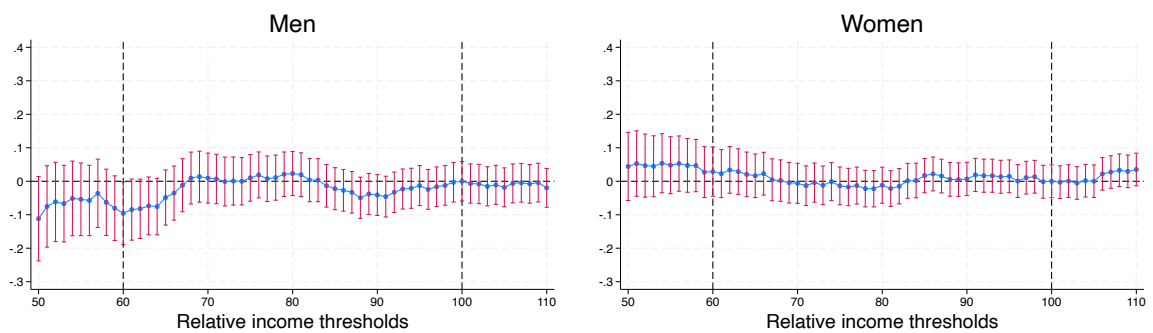
(a) Germany



(b) Australia



(c) France



(d) United-Kingdom

FIGURE 1.18 – Positive income shocks – Heterogeneity by Gender

Note : All years (2010 to 2019). The graphs present the results of the regressions of the change in life satisfaction on income gain as each of the relative monetary thresholds is crossed, separately for women and men. All coefficients are rescaled for comparison, with a level set at 0 for the regression corresponding to the median income (the dashed line at 100).

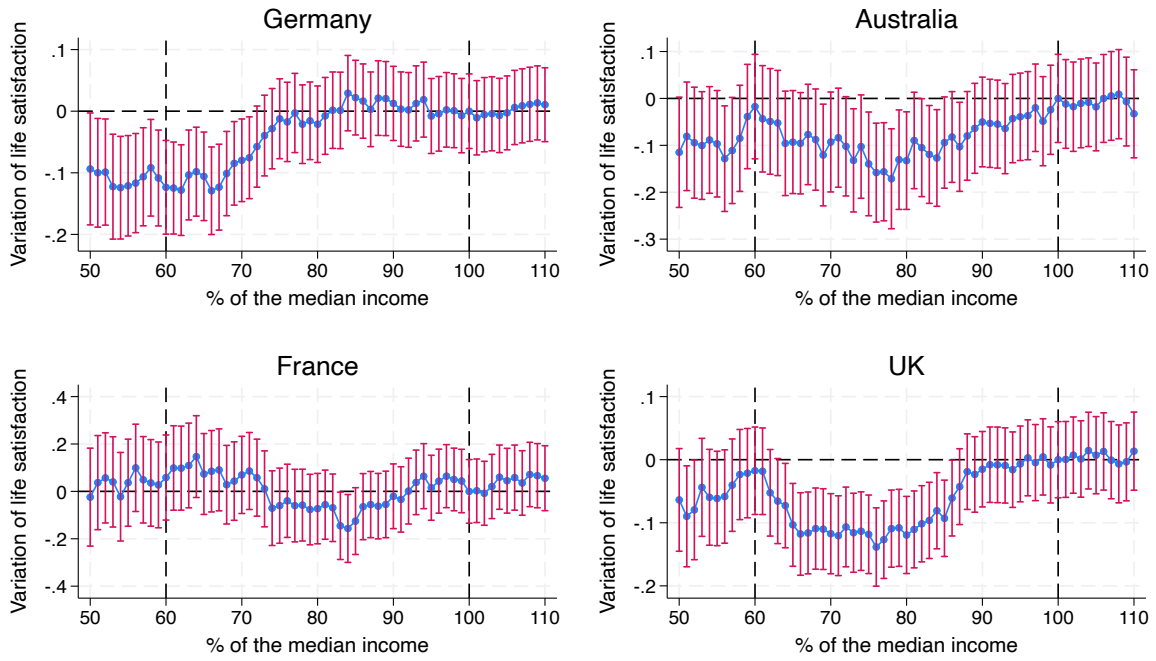


FIGURE 1.19 – Impact of negative income shocks on life satisfaction of respondents aged 30 and more

Note : All years (2010 to 2019).

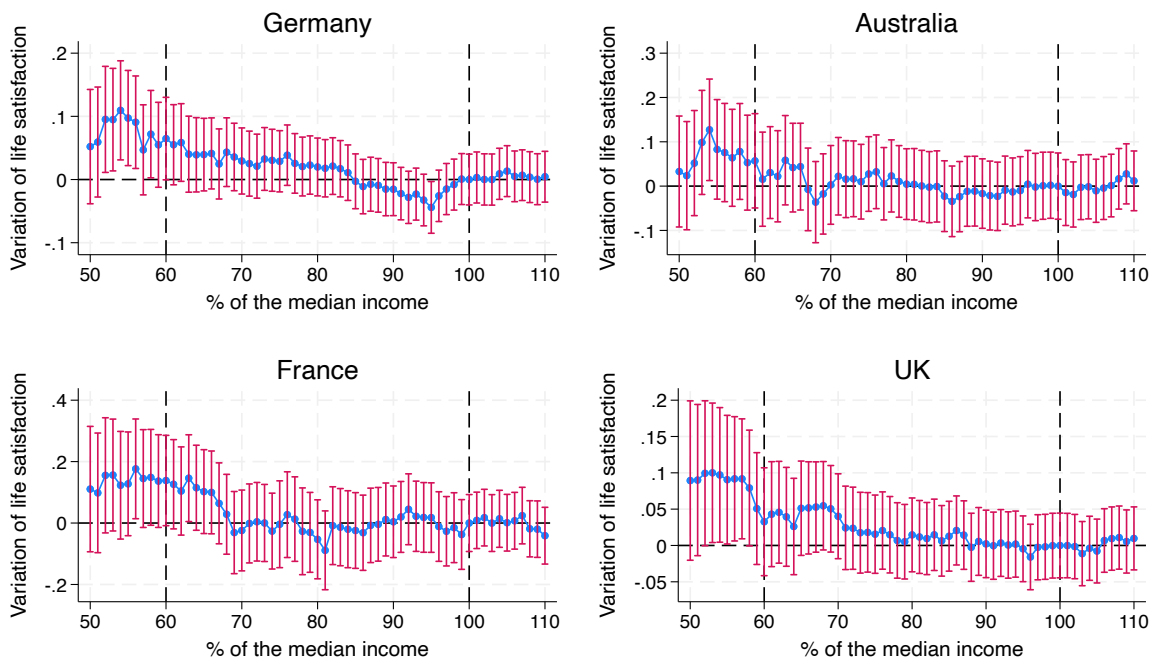


FIGURE 1.20 – Impact of positive income shocks on life satisfaction of respondents aged 30 and more

Note : All years (2010 to 2019).

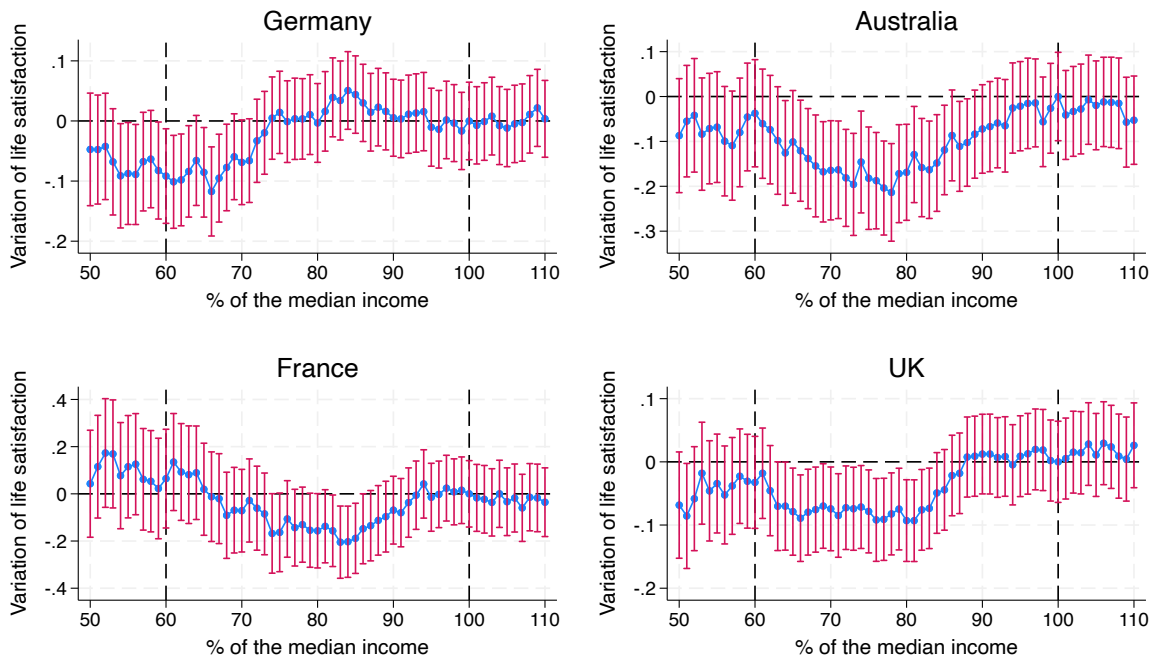


FIGURE 1.21 – Impact of negative income shocks on life satisfaction holding equivalised household size constant

Note : All years (2010 to 2019).

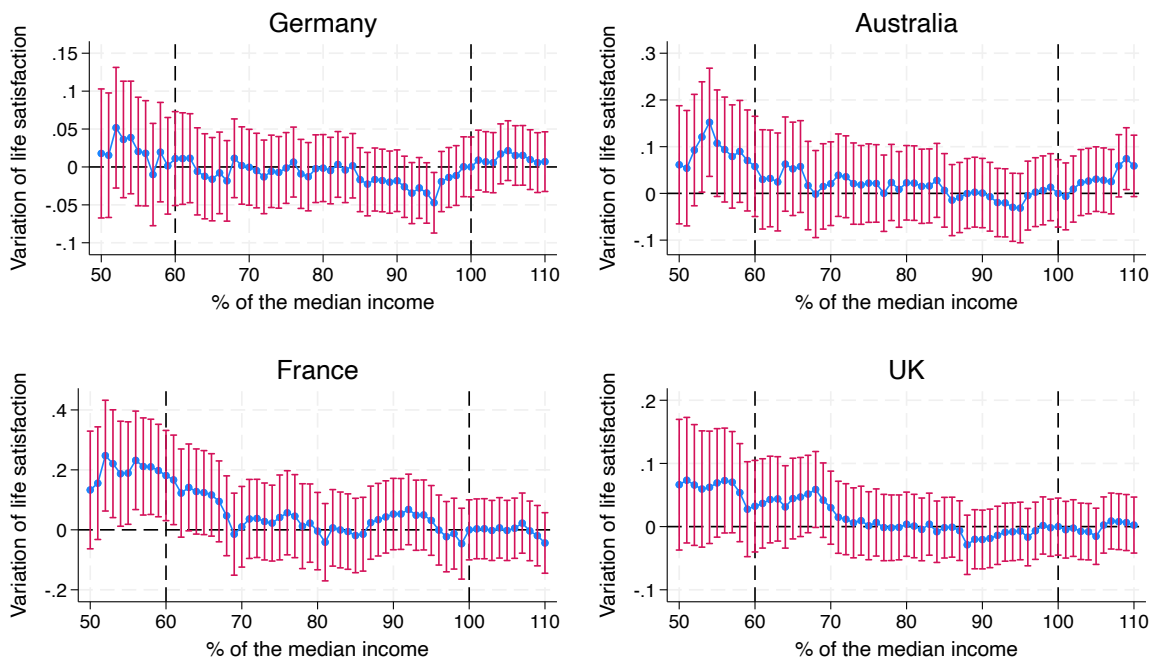


FIGURE 1.22 – Impact of positive income shocks on life satisfaction holding equivalised household size constant

Note : All years (2010 to 2019).

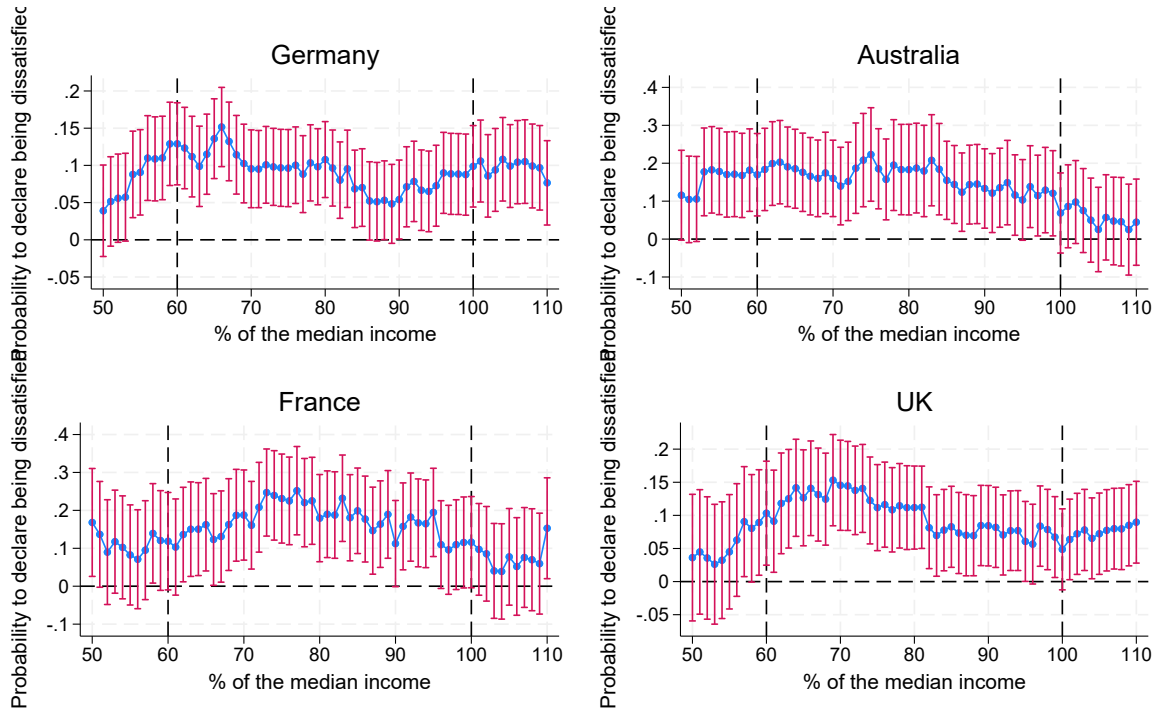


FIGURE 1.23 – Probability of reporting dissatisfaction with one’s life after a negative income shock

Note : All years (2010 to 2019).

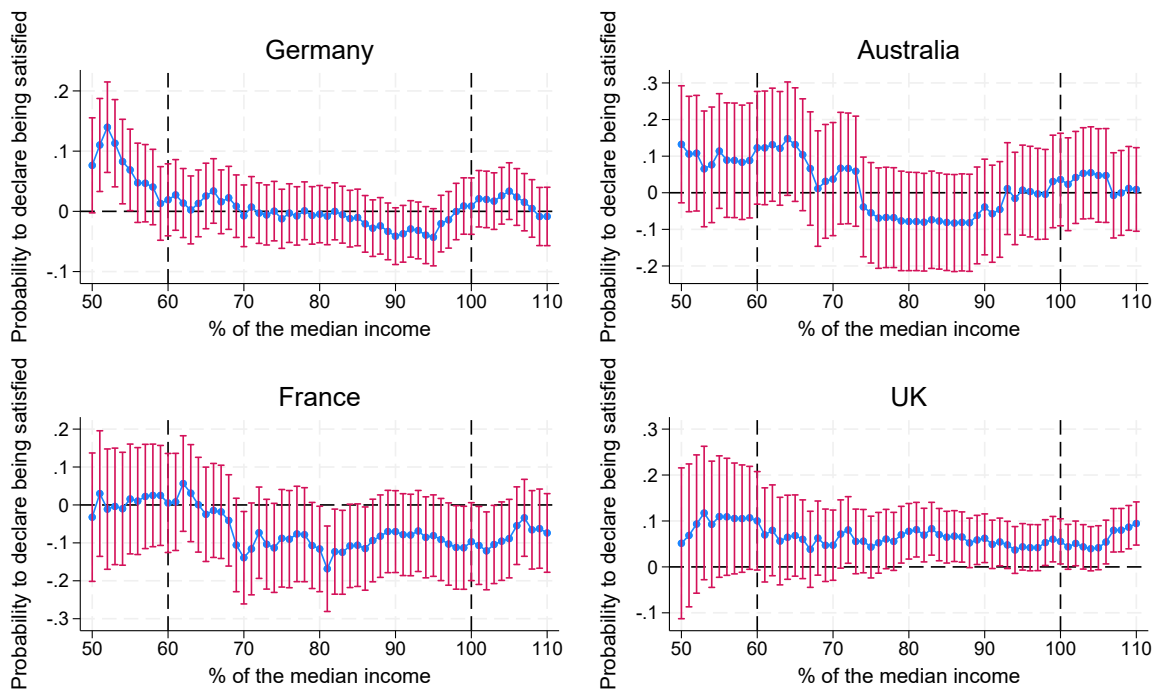


FIGURE 1.24 – Probability of reporting satisfaction with one’s life after a positive income shock

Note : All years (2010 to 2019).

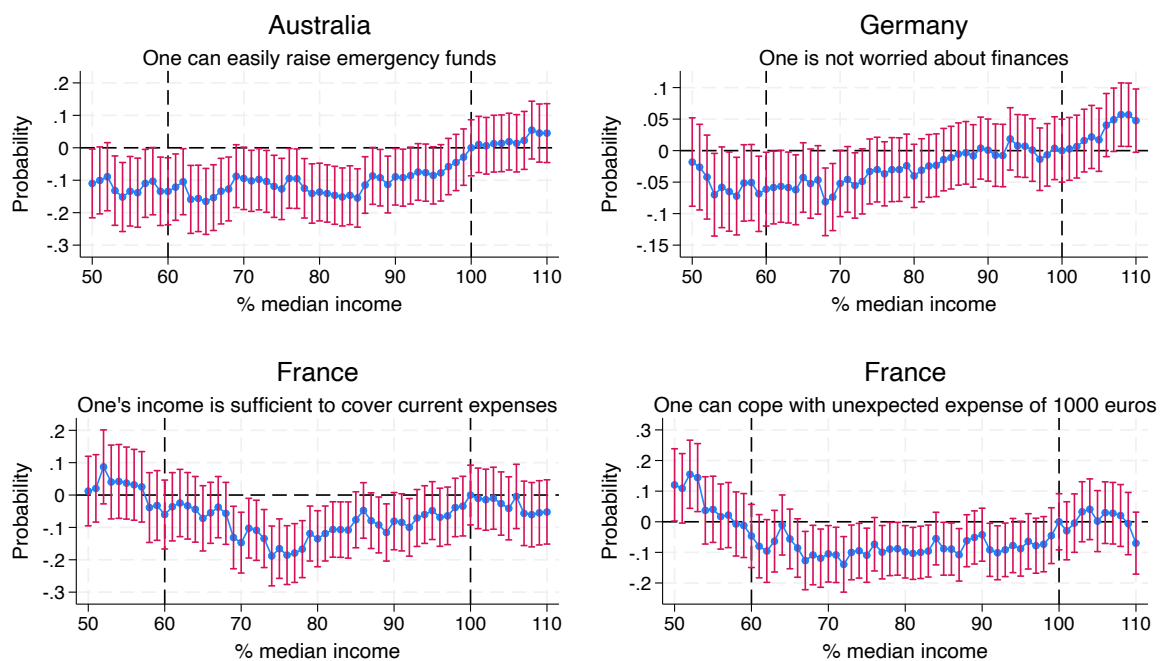


FIGURE 1.25 – Probabilities of reporting that one can easily raise funds or balance the household budget

Note : Household, Income and Labour Dynamics in Australia (HILDA) Survey and Statistiques sur les Ressources et les Conditions de Vie (SRCV) for all years (2010 to 2019).

Chapitre 2

L'exclusion sociale est-elle réductible à la situation d'assistance ?

Quantifier les déterminants du sentiment d'exclusion
sociale en France

Ce chapitre a donné lieu à une publication dans une revue à comité de relecture : Fouliard, J., et Richard, E. (2023) « L'exclusion sociale est-elle réductible à la situation d'assistance ? Quantifier les déterminants du sentiment d'exclusion sociale en France », *Revue française de sociologie*, vol. 64, no. 3, 2023, pp. 357-397.

Abstract

This article aims to quantify the relative significance of various determinants of the feeling of exclusion identified in the literature. Drawing on data from the 2018 “Statistics on Resources and Living Conditions” survey (“Statistiques sur les ressources et les conditions de vie” or “SRCV”) conducted by France’s National Institute of Statistics and Economic Studies (Insee), it demonstrates that social assistance, defined as households’ perception of social transfers, has no additional or intensifying effect on feelings of exclusion once controlling for factors such as labor market detachment, country of birth, material poverty, and geographical isolation. These findings contribute to the ongoing debate in the literature by refuting the hypothesis that feelings of exclusion are primarily attributable to the situation of being assisted, which binds individuals to society.

Keywords Exclusion, Poverty, Assistance.

Résumé

Cet article propose de quantifier l’importance relative des différents déterminants du sentiment d’exclusion identifiés dans la littérature. En s’appuyant sur le volet 2018 de l’enquête « Statistiques sur les ressources et les conditions de vie » (« SRCV ») de l’Insee, il montre que l’assistance, telle que définie par la perception de transferts sociaux par les ménages, n’a pas d’effet additionnel sur le sentiment d’exclusion, une fois l’éloignement du marché du travail, le pays de naissance, la pauvreté matérielle et l’isolement géographique des individus pris en compte. En cela, ses résultats contribuent à éclairer le débat présent dans la littérature, en rejetant l’hypothèse selon laquelle l’émergence du sentiment d’exclusion serait avant tout imputable à la situation d’assistance qui unit l’individu à la société.

Mots-clés Exclusion, Pauvreté, Assistance.

I Introduction

« *Le cœur, les "tripes" ne s'accrochent pas de la "sécheresse" des chiffres, des catégories "sans âme" des sociologues et des statisticiens* » (Lenoir (1974), p. 144). En 1974, René Lenoir, haut-fonctionnaire et homme politique, introduit la notion d'exclusion dans le débat public, en affirmant à la fois qu'elle concerne un Français sur dix et qu'elle ne s'accroche pas de la « sécheresse » des sociologues et des statisticiens. Apparue dans le débat public comme une rhétorique mobilisée par la Haute Fonction Publique française puis reprise dans les années 1980 par le milieu associatif, la notion d'exclusion sociale a d'abord eu pour particularité d'être perçue comme nécessaire pour comprendre le monde social tout en restant une zone grise de l'analyse sociologique : « *saturé(e) de sens, de non-sens et de contresens, finalement on arrive à lui faire dire à peu près n'importe quoi, y compris le dépit de celui qui ne peut obtenir tout ce à quoi il prétend* » (Freund (1998), p. 11).

Si son usage dans les sciences sociales a d'abord été remis en cause¹ en raison de son indétermination sémantique (Join-Lambert, 1995; Fassin, 1996; Goodin, 1996) et de son usage performatif dans le monde social (Verdès-Leroux, 1978; Messu, 1997), la notion d'exclusion bénéficie à partir des années 1990 d'un cadre analytique rigoureux répondant à un besoin conceptuel nouveau (Paugam et al., 1996), celui de comprendre la diffusion dans l'espace social d'un sentiment d'être privé de l'accès à ses sphères légitimes. Parfois décrite comme « nouvelle question sociale » (Autès, 1995) ou comme une notion transversale dans la recherche en sciences sociales (Paugam et al., 1996), l'exclusion sociale est alors comprise de manière relationnelle (Simmel, 1998; Paugam, 2020) : est exclu celui qui est assigné comme tel². Alors que la notion d'exclusion renvoie à son origine à la désignation d'une condition objective, décrivant des individus séparés du reste de l'espace social, son usage scientifique la redéfinit comme un sentiment subjectif qui s'expliquerait par l'émergence d'une relation d'assignation à une position sociale illégitime, dont l'archétype dans les sociétés contemporaines est celle de l'assisté³.

Si cette perspective permet de sortir d'une vision substantialiste de l'exclusion en fournissant un cadre analytique robuste, elle semble souffrir d'une double faiblesse. D'une part, elle a pour contrainte d'aboutir à la conclusion paradoxale que l'assistance crée elle-même l'exclusion⁴. De l'autre, son usage restreint à la prise en charge assistantielle omet la pluralité des situations qui peuvent donner lieu à l'émergence du sentiment d'exclusion. Castel (1995) estime par exemple que l'exclusion sociale naît d'un manque d'intégration aux marchés du travail et aux marchés des biens et services, qui déterminent l'intégration sociale légitime au sein des sociétés contemporaines. Paugam et al. (1996) regroupent à ce titre les exemples de plusieurs situations sociales hétérogènes qui peuvent conduire au développement du sentiment d'exclusion, en fonction de l'âge (Galland, 1996; Guillemard, 1996), de facteurs spatiaux (Grafmeyer, 1996), ethniques (Wieviorka and Barats-Malbré, 1994) ou liés au handicap (Stiker, 1996).

1. Voir Didier (1996) et plus récemment Fouliard (2017) pour un historique détaillé de la notion.

2. En reprenant les termes de G. Simmel cités par S. Paugam dans la préface de Simmel (1998) : « Ce n'est qu'à partir du moment où ils sont assistés – ou peut-être dès que leur situation globale aurait dû exiger assistance, bien qu'elle n'ait pas encore été donnée – qu'ils deviennent membres d'un groupe caractérisé par la pauvreté. » (Simmel, 1998).

3. Il faut noter que ce cadre analytique n'est pas le seul à avoir été développé dans la littérature en sciences sociales. Parallèlement, la théorie économique s'est également attachée à modéliser le développement du sentiment d'exclusion comme la privation de plusieurs éléments objectifs (voir notamment Sen (2000), Tsakoglou and Papadopoulos (2001) et Chakravarty and D'Ambrosio (2006)).

4. Nous sommes particulièrement redevables des remarques d'O. Schwartz à ce sujet.

L'importance relative des différents mécanismes sociologiques permettant de rendre compte du sentiment d'exclusion sociale semble donc encore faire débat, comme l'illustre la richesse des récents échanges à ce sujet (voir Duvoux and Papuchon (2018), Paugam (2020) et Lahieyte (2020)). A notre connaissance, la quantité d'études empiriques visant à expliquer l'émergence du sentiment d'exclusion demeure toutefois modeste. Gundert and Hohendanner (2014) et Pohlan (2019) ont mis en évidence le rôle négatif de l'insécurité dans l'emploi (à travers l'enchaînement des contrats de travail temporaires) et de la perte d'emploi sur le sentiment d'exclusion en Allemagne, confirmant par là l'importance de l'éloignement des sphères stables et intégrées du marché du travail pour expliquer l'émergence de ce sentiment, sans toutefois intégrer une dimension assistantielle à leur analyse empirique. Duvoux and Papuchon (2018) ont confirmé empiriquement les analyses de Castel (1995) en montrant que le sentiment d'exclusion est corrélé à la situation d'assistance mais également à d'autres éléments objectifs comme la composition familiale, le genre, l'appartenance aux groupes ouvriers ou le statut d'occupation du logement.

Le présent article vise à apporter un éclairage nouveau à ce débat en quantifiant l'importance relative des déterminants identifiés par la littérature sociologique, ayant trait à la fois à la situation d'assistance et à d'autres phénomènes objectifs. Notre démarche, s'appuyant sur le volet 2018 de l'enquête Statistiques sur les ressources et les conditions de vie (SRCV) de l'Institut national de la statistique et des études économiques (INSEE), comporte un double avantage comparatif par rapport au travail de Duvoux and Papuchon (2018), à la fois théorique et empirique. D'une part, nos données sont plus robustes que les données mobilisées jusqu'à présent dans la littérature. Tandis que le Baromètre d'opinion a surtout vocation à apporter des éclairages complémentaires aux travaux menés par la Direction de la recherche, des études, de l'évaluation et des statistiques (DREES), la base de données SRCV menée chaque année par l'INSEE est issue du dispositif EU-SILC (European Union - Statistics on Income and Living Conditions) dont l'objectif est de lutter contre l'exclusion sociale et de faciliter les comparaisons entre pays européens concernant les ressources et les conditions de vie des ménages. L'enquête associe un volet de questions subjectives à des questions objectives sur les ressources et les conditions de vie des ménages. Par rapport au Baromètre, la méthode d'échantillonnage est plus robuste⁵, le nombre de répondants est supérieur (une vingtaine de milliers d'individus sont interrogés chaque année contre environ 3000 pour le Baromètre), et les données collectées via un questionnaire administré en face-à-face sont ensuite complétées par des sources administratives, en ce qui concerne les revenus.

D'autre part, l'utilisation du « sentiment d'intégration à la société » en tant que variable dépendante de l'analyse nous paraît déterminante dans la perspective de prolonger l'apport des travaux menés jusqu'à présent. Notre méthodologie est semblable à celle de Duvoux and Papuchon (2018), dans la mesure où elle consiste à explorer la corrélation entre le sentiment d'exclusion sociale et ses principaux déterminants : l'accès au marché du travail, la privation matérielle et la perception de transferts sociaux. Bien qu'il subsiste une incertitude quant au sens que les enquêtés donnent à une variable subjective⁶, comme l'a fait justement remarquer Lahieyte (2020), notre variable dépendante présente un avantage théorique

5. L'enquête SRCV est un panel rotatif représentatif de la population française métropolitaine dans lequel les ménages sont interrogés de 4 à 9 années successives. Chaque année, un nouveau sous-échantillon représentatif apparaît, tandis qu'un autre sous-échantillon disparaît (Figure 1.10 en Annexe). Cette méthode d'échantillonnage rotative assure « une actualisation permanente de la base de sondage » selon le Dictionnaire des codes 2018 (p. 9).

6. Néanmoins, il faut noter que la question utilisée est une question directe, ce qui en facilite l'interprétation.

par rapport au sentiment de pauvreté sur lequel Duvoux and Papuchon (2018) fondent leur analyse : celui d'être plus englobante des dimensions de l'exclusion sociale, en ce qu'elle condense les dimensions d'insécurité et d'infériorisation sociale que Paugam (2020) considère comme devant être prises en compte dans l'analyse de l'exclusion sociale. Par ailleurs, notre démarche n'implique pas de devoir faire l'hypothèse que le sentiment d'exclusion correspondrait à l'absence du sentiment d'intégration dans la mesure où ces termes sont directement inclus dans la question posée, les premiers échelons correspondant au sentiment d'être « totalement exclu » de la société tandis que les derniers à celui de se sentir « totalement intégré ». ⁷

Ce double avantage comparatif, à la fois empirique et théorique, nous permet d'apporter une réponse inédite à la question suivante : dans quelle mesure le sentiment d'exclusion sociale est-il expliqué par la situation d'assistance et par d'autres phénomènes objectifs multidimensionnels ? Il faut noter cependant que la mise en évidence empirique de déterminants multidimensionnels qui diffèrent de ceux relatifs à la situation d'assistance n'a pas pour objectif d'invalidier le cadre analytique relationnel proposé par Paugam (2020), qui comporte de nombreux avantages théoriques, dont celui d'être rigoureux et particulièrement flexible. En effet, la situation d'éloignement des sphères stables du marché du travail ou du marché des biens, comme toute autre position illégitime, peut aussi se traduire par le développement d'un processus d'assignation. ⁸

Notre approche, qui consiste à modéliser la relation qui unit les principales variables constitutives d'une situation de précarité objective au sentiment d'exclusion sociale, nous permet de mettre en lumière l'importance relative de ces facteurs. Nos résultats montrent que l'assistance, telle que définie par la perception de transferts sociaux par les ménages, n'a pas d'effet additionnel sur le sentiment d'exclusion, une fois l'éloignement du marché du travail, la pauvreté matérielle et l'isolement géographique des individus pris en compte. En cela, ils contribuent à éclairer le débat présent dans la littérature, en rejetant l'hypothèse selon laquelle l'émergence du sentiment de pauvreté serait avant tout imputable à la situation d'assistance qui unit l'individu à la société.

II Données

Dans le cadre de cet article, nous nous intéressons uniquement aux données transversales de l'enquête 2018. Notre échantillon comporte 19 506 répondants âgés de 16 à 101 ans, parmi lesquels 13 852 individus provenant de 10 475 ménages distincts ont répondu aux questions subjectives. La variable dépendante de notre analyse est le « sentiment d'être intégré(e) dans la société », dont les réponses sont relevées sur une échelle de 0 à 10. Les individus doivent renseigner, selon les termes de la question, le sentiment d'être intégré à la société de 0 « qui signifie que vous vous sentez totalement exclu de la société » et 10 « qui signifie que vous vous sentez totalement intégré » (Dictionnaire des codes SRCV, p.231). La Figure 2.1 présente la distribution des réponses à la question sur le sentiment d'intégration. La grande

7. Nous reprenons ainsi l'hypothèse des concepteurs de l'enquête SRCV selon laquelle le sentiment d'exclusion correspond à l'absence du sentiment d'intégration.

8. Les ethnographies conduites auprès d'individus évoluant dans une situation de privation matérielle documentent les processus d'étiquetage et de stigmatisation que ces derniers subissent au-delà de la prise en charge assistantielle, notamment par rapport au groupe des pairs (voir notamment Paugam (2005) sur ce point). La volonté d' « être comme tout le monde » (Masclat et al., 2020) révèle en creux la relégation et la stigmatisation que subissent les individus faisant l'objet d'une telle privation.

majorité des individus reportent un sentiment d'intégration élevé, en particulier égal à 8 sur 10, pour 30 % d'entre eux. Cette variable n'est présente qu'en 2018 car elle fait partie du module secondaire de l'enquête SRCV dont la thématique varie chaque année. En 2018, le module secondaire porte sur le bien-être et comprend 13 questions subjectives qui sont uniquement posées en face-à-face à l'individu échantillonné. Dans 28% des cas, l'individu échantillonné est absent au moment du questionnaire et une autre personne du ménage répond alors à sa place pour les questions relatives au ménage, ce qui engendre de la non-réponse aux questions subjectives faisant partie du questionnaire individuel⁹. Dans environ un tiers des ménages composés de plusieurs adultes, on observe des réponses différentes parmi les individus du même ménage. Cette variabilité des réponses au sein d'un ménage montre l'existence d'un hiatus entre les caractéristiques définies au niveau du ménage (composition du ménage et ressources, qui déterminent l'accès aux droits pour les prestations sociales) et le ressenti individuel. Cependant, le degré de variabilité est trop faible, et l'échantillon trop réduit pour que nous puissions l'exploiter statistiquement, même si l'on observe que les hommes (dans les ménages composés d'au moins un couple hétérosexuel) reportent des valeurs plus extrêmes que les femmes, comme le montre la Figure 2.2 en annexe.

Comme le montre la table 2.3 en annexe, les caractéristiques moyennes des répondants à la question sur le sentiment d'intégration (colonne 2) diffèrent de celles de l'échantillon représentatif (colonne 1). En effet, davantage de femmes, de personnes âgées, de célibataires répondent aux questions subjectives. Afin de corriger le biais de sélection potentiel associé à la non-réponse à la question sur le sentiment d'intégration, nous effectuons une correction de la non-réponse totale par repondération par groupes de réponse homogène. Pour cela, nous modélisons la réponse des individus en fonction des variables explicatives du sentiment d'exclusion : sexe, âge, diplôme, statut d'activité, taille de l'unité urbaine, décile de revenu avant prestations, statut de pauvreté en conditions de vie. Nous constituons ensuite des déciles de la probabilité de réponse, et nous assignons à chaque répondant de chaque groupe l'inverse de la proportion observée de répondants dans le groupe. Comme le montre la colonne 3 de la table 2.3 en annexe, la population des répondants à la question sur le sentiment d'intégration, une fois repondérée, présente les mêmes caractéristiques moyennes que l'échantillon représentatif.

TABLE 2.1 – Caractéristiques des répondants

	Tous	Exclus	Intégrés
Sexe			
Femmes	52.66	49.08	51.04
Hommes	47.34	50.92	48.96
Âge			
16-24 ans	12.05	8.43	11.75
25-34 ans	11.11	10.28	10.91
35-44 ans	14.32	11.60	14.01
45-54 ans	17.33	20.99	17.37

9. La non-réponse peut également survenir, en présence de l'enquêté, pour des raisons inconnues. Cette deuxième source est cependant négligeable puisqu'elle ne concerne que 268 observations sur 14 245 (soit environ 1.7%).

	Tous	Exclus	Intégrés
55-64 ans	17.89	19.50	18.20
65-74 ans	16.31	14.25	17.21
Plus de 74 ans	10.99	14.94	10.54
Statut matrimonial			
Famille monoparentale	8.43	8.76	7.41
Couple sans enfants	33.55	30.51	35.09
Couple avec enfants	38.42	31.73	39.36
Autre	2.95	3.53	2.78
Célibataire	16.64	25.47	15.36
Statut d'activité			
Etudiants	7.89	2.79	8.55
Apprentis ou stagiaires	0.42	0.00	0.34
Au chômage	5.44	15.72	3.52
Retraités	32.35	34.05	32.87
Inactifs pour cause d'invalidité	1.39	7.36	0.74
Autres inactifs	4.41	10.19	3.03
En emploi	48.10	29.90	50.93
CSP			
Agriculteurs	0.90	0.54	0.80
Artisans	2.28	2.81	2.55
Cadres	9.43	3.71	12.70
Professions intermédiaires	14.83	9.21	16.84
Employés	15.12	13.17	13.12
Ouvriers	11.78	13.13	9.45
Diplôme			
Supérieur à bac+2	17.05	6.97	22.17
Bac+2	12.36	7.37	13.81
Bac ou équivalent	18.56	14.77	18.18
CAP, BEP	23.78	31.15	20.94
BEPC	8.81	7.01	8.80
Aucun diplôme	19.15	32.45	15.96
Taille de l'unité urbaine			
Région rurale	39.89	42.40	37.78
Ville moyenne	18.83	21.99	17.80
Grande ville (sauf Paris)	30.35	28.07	32.19
Paris	10.93	7.54	12.22
Décile de revenu avant prestations			

	Tous	Exclus	Intégrés
Décile 1	8.94	20.94	6.79
Décile 2	10.44	18.36	8.46
Décile 3	10.24	14.96	9.15
Décile 4	10.31	10.47	9.81
Décile 5	10.22	8.59	9.74
Décile 6	10.22	7.24	9.94
Décile 7	9.75	6.54	10.20
Décile 8	10.06	4.38	10.92
Décile 9	9.76	2.63	12.26
Décile 10	10.06	5.90	12.73
Statut de pauvreté			
Pauvre en conditions de vie (indic. français)	10.08	35.40	6.17
A reçu des transferts en N-1			
Allocations logement	23.88	37.92	20.27
RSA	12.92	20.62	10.22
Allocations familiales	32.59	24.83	32.06
Allocations chômage	18.96	23.76	17.00
Déclare percevoir des transferts en N			
Allocation logement	13.20	24.73	10.71
RSA ou PA	6.32	10.77	5.05
Allocation familiale	24.36	17.37	24.04
Allocation chômage	8.36	11.68	7.25
Observations	13852	576	7059

Lecture : Tous les coefficients correspondent à des pourcentages, dont la somme au sein d'une catégorie vaut 100. Ainsi, parmi les répondants à la question sur le sentiment d'intégration, 12,05 % sont âgés de 16 à 24 ans, mais parmi le sous-échantillon ayant répondu entre 0 et 3 sur 10, ils sont seulement 8,43 % à être âgés de 16 à 24 ans.

La table 2.1 donne les caractéristiques moyennes pondérées des répondants à la question sur le sentiment d'intégration. Nous nous intéressons aux premiers et aux derniers échelons de la variable d'intégration. Notre variable dépendante, qui résume les situations d'exclusion, est une variable dichotomique égale à 1 si l'individu a répondu entre 0 et 3 à la question posée, tandis que nous définissons le sentiment d'intégration par le fait de répondre entre 8 et 10. Dans la colonne 1, nous détaillons les caractéristiques de tout l'échantillon de répondants, dans la colonne 2, celles des enquêtés ayant répondu entre 0 et 3 inclus à la question (576 répondants au total) et dans la colonne 3, celles des répondants se déclarant intégrés (7059 au total). Les personnes âgées, les hommes et les personnes célibataires se déclarent davantage exclus que la moyenne, tout comme les moins diplômés, les habitants de région rurale, les ménages pauvres en conditions de vie et les bénéficiaires d'aides au logement, d'aides sociales ou de l'assurance-chômage.

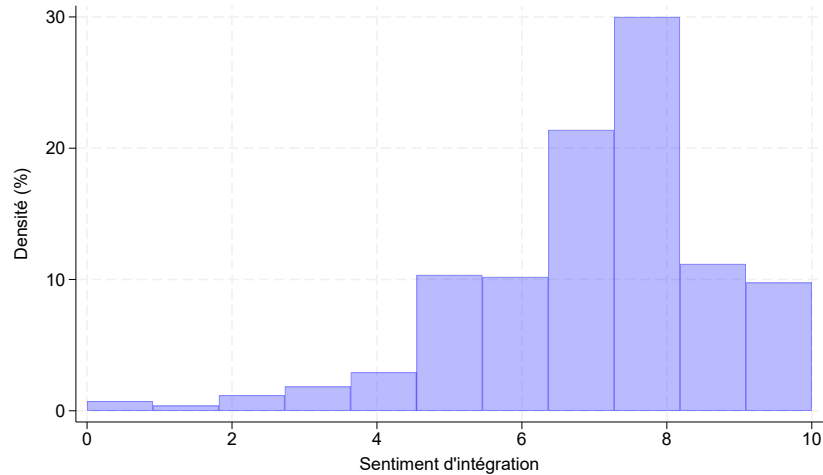


FIGURE 2.1 – Distribution de la variable du sentiment d'intégration

Source : SRCV 2018.

Lecture : En 2018, environ 30 % de l'échantillon total (4156 sur 13858 personnes) ont répondu 8 sur 10 à la question sur le sentiment d'intégration.

Afin de quantifier l'importance relative des sous-ensembles de déterminants du sentiment d'exclusion, nous détaillons dans la partie suivante notre stratégie empirique.

III Stratégie empirique

Notre stratégie empirique consiste à estimer un modèle de régression logistique du sentiment d'exclusion sur deux ensembles de variables explicatives, afin de quantifier l'importance relative des déterminants relationnels de l'exclusion face à d'autres déterminants objectifs dits multidimensionnels¹⁰. Le choix de la régression logistique est d'abord motivé par le fait qu'elle permet de ne pas supposer une relation linéaire entre la variable dépendante et les régresseurs. En effet, la prédiction d'une variable non-linéaire par une régression linéaire peut conduire à des probabilités négatives ou supérieures à 1, ce qui risque d'introduire un biais dans les coefficients (Horrace and Oaxaca, 2006). Toutefois, comme le soulignent Ferrer-i Carbonell and Frijters (2004), supposer l'ordinalité ou la cardinalité de la variable subjective donne des résultats relativement équivalents. Si de nombreux travaux utilisent des modèles OLS à effets-fixes (voir par exemple D'Ambrosio et al. (2016)), d'autres ont fait le choix de la régression logistique (par exemple, Burchardt (2004)). Néanmoins, comme le rappelle Mood (2010), la régression logistique peut avoir pour désavantage d'être affectée par un biais de variables omises alors même que ces variables ne sont pas corrélées avec les régresseurs. Pour cette raison, nous estimons également un modèle de régression linéaire. Nos résultats sont robustes à cette spécification alternative¹¹.

D'un côté, nous incluons parmi les variables explicatives du sentiment d'exclusion reporté par les enquêtes différents déterminants multidimensionnels décrits dans la littérature comme pouvant être à

10. Nos résultats sont robustes lorsque nous regroupons les seuils de la variable dépendante différemment (par exemple de 0 à 2, ou de 0 à 4). Afin de prolonger nos résultats, nous modifions la variable dépendante en considérant chaque échelon de réponse comme autant de variables dépendantes dichotomiques distinctes et discutons les résultats associés (voir la table 2.7 en annexe).

11. Ces résultats sont disponibles sur demande.

l'origine du sentiment d'exclusion (Atkinson et al., 2002). Pour Castel (1995), le sentiment d'exclusion provient de l'assignation à une position illégitime au marché du travail, mesurée par le statut d'activité, et au marché des biens et services, mesuré par l'indicateur de pauvreté en conditions de vie¹². L'introduction des déciles de revenu avant prestations sociales permet de saisir l'importance de l'éloignement relatif au sein du marché des biens dans le développement du processus d'exclusion souvent soulignée dans la littérature (Akerlof, 1997; Bossert et al., 2007). Notre modèle inclut également la taille de l'unité urbaine des répondants, dans la mesure où le sentiment d'exclusion peut être déterminé par l'éloignement vis-à-vis des institutions légitimes (Mathieu, 1997; Vela-Jiménez and Sianes, 2021). Enfin, les caractéristiques d'âge (voir notamment Galland (1996) et Gasquet and Roux (2006) sur les jeunes) et de genre (concernant par exemple l'accès inégal à l'espace public (Lieber, 2008)) peuvent également jouer un rôle dans le processus d'exclusion.

De l'autre, nous incluons également différentes déclinaisons des situations d'assistance, comprises comme des situations où les ressources disponibles des individus proviennent des prestations sociales et impliquent un rapport régulier avec les services sociaux. Sont alors intégrées comme variables explicatives les allocations familiales, les aides au logement et les aides sociales (RSA et autres aides de la mairie, du département et des organismes sociaux), sous la forme de variables indicatrices valant 1 si l'enquêté est bénéficiaire, et 0 sinon. Nous incluons également parmi les variables d'intérêt les allocations-chômage : en effet, même si elles ont un fondement différent de l'assistance sociale, puisqu'elles reposent sur un système assurantiel et non assistantiel, la littérature a montré que l'expérience de bénéficier d'une assurance-chômage est en partie assimilable au fait d'être sujet à d'autres formes d'assistance (Lavitry, 2015; Arrignon, 2017), dans un contexte où la stigmatisation des « chômeurs » a été renforcée sous l'effet d'une vision du chômage perçue comme enjeu d'incitation individuelle et non de risque macroéconomique (Boyer, 2007). Nous supposons que l'inclusion de telles variables permet d'identifier l'effet additionnel de la perception des aides pour des individus comparables du point de vue des caractéristiques sociodémographiques observables, c'est-à-dire ayant le même âge et le même sexe, appartenant au même type de ménage, au même décile de revenu avant prestations et vivant dans une unité urbaine de taille semblable. Ainsi, nous entendons tester l'hypothèse selon laquelle le sentiment d'exclusion proviendrait d'une participation contrariée aux institutions sociales, entraînant une assignation à une position illégitime (Duffy, 1995; Paugam and Russell, 2000). Toutefois, une telle lecture des coefficients du modèle de régression logistique détaillé plus haut repose sur des hypothèses qu'il s'agit d'explicitier. En particulier, nous identifions trois types de phénomènes qui pourraient venir biaiser l'analyse économétrique et nous incitent à la plus grande prudence interprétative.

Tout d'abord, en plus d'un potentiel effet d'assignation, le fait de toucher des transferts sociaux a également un effet indirect, celui d'augmenter les revenus des individus ciblés par le transfert. Ainsi, estimer la relation entre de telles variables indicatrices de la perception d'aides sociales et le sentiment d'exclusion ne permet pas nécessairement d'identifier l'effet potentiel de stigmatisation qui nous intéresse.

12. Cet indicateur est une variable binaire qui repose sur le repérage d'un certain nombre de privations d'éléments d'un bien-être matériel standard, c'est-à-dire largement diffusés dans la population, ou de difficultés dans la vie quotidienne. Un ménage est dit pauvre en conditions de vie selon la définition Insee lorsqu'il cumule « au moins 8 privations ou difficultés parmi 27 relatives à l'insuffisance des ressources, aux retards de paiement, aux restrictions de consommation et aux difficultés liées au logement » (cf. Dictionnaire des codes SRCV, p.35).

Afin de mieux distinguer les deux effets, nous contrôlons par le décile de revenus après prestations sociales afin de tenir compte de cet effet-revenu¹³. Ensuite, les allocations-chômage semblent apparaître à double titre parmi les variables d'intérêt, à travers les variables « allocations chômage » (transfert) et « au chômage » (statut d'activité). Ces deux variables renvoient aux deux aspects de l'expérience du chômage – une situation d'éloignement du marché du travail, et le bénéfice d'une forme d'assistance – qui ne se recoupent pas entièrement, comme le notait déjà Castel (1995)¹⁴, et permettent de mesurer les effets respectifs du stigmate relatif à la perception de l'allocation chômage et de la privation d'emploi. Pour mieux distinguer entre les différents types de situations reportées par les répondants, nous éclatons la variable « chômage » en plusieurs situations-types en fonction de l'ancienneté au chômage et de la perception de l'assurance-chômage dans une spécification alternative (voir la partie 4.3 sur l'hétérogénéité des résultats par type de transfert).

Enfin, l'hypothèse économétrique sous-jacente à la bonne identification des coefficients du modèle est celle de l'exogénéité des variables explicatives par rapport à la variable dépendante. Dans notre contexte, elle pourrait ne pas être vérifiée si le sentiment d'exclusion et l'une ou plusieurs des variables explicatives s'influencent mutuellement, auquel cas on ferait face à un biais de simultanéité qui pourrait fausser les estimations des coefficients, rendant les résultats non fiables. Dans le cas du sentiment d'exclusion reporté, le risque est celui de la causalité inversé, c'est-à-dire la situation dans laquelle les non-recourants ne demandent pas l'aide parce qu'elle est stigmatisante. Une réponse à ce problème potentiel dans notre contexte réside dans le dévoilement des déterminants du non-recours. L'Observatoire des non-recours aux droits et services (Odenore) distingue ainsi le non-recours par non-connaissance, non-proposition de la part des conseillers ou agents prestataires, non-demande (désintérêt pour la prestation, lassitude face à de longues procédures...), non-réception (démarche inachevée, découragement) et non-orientation (manque d'accompagnement dans l'accès aux dispositifs). Parmi les raisons invoquées par les non-recourants interrogés dans le cadre du Baromètre de la Direction de la recherche, des études, de l'évaluation et des statistiques (Drees, 2021), les enquêtés citent d'abord le manque d'informations, puis la crainte de la complexité des démarches et la crainte de conséquences négatives (perte d'autres droits, obligation de payer des impôts, problèmes administratifs, etc.). Le motif qui s'apparenterait le plus à de l'auto-exclusion est « le souhait de s'en sortir par soi-même ou de ne pas être considéré comme un assisté ». Or, cette réponse arrive en quatrième position avec 14 % de l'échantillon en 2018, après le manque d'information sur les aides ou organismes (44 %), la complexité des démarches (25 %) et la crainte de conséquences négatives (12 %). Si cet argument nous incite à penser que la probabilité de survenue d'un tel biais soit faible dans notre contexte, nous considérons néanmoins nos résultats comme principalement indicatifs, et comme représentant un faisceau d'indices plutôt qu'une preuve économétrique formelle.¹⁵

13. Nous reproduisons les régressions en utilisant le décile de revenu après prestations sociales en contrôle dans la table 2.6 en annexe. Les coefficients restent inchangés en termes de magnitude et de significativité d'un ensemble de modèles à l'autre, ce qui suggère que l'effet de stigmatisation potentiellement associé à la relation d'assistance n'a pas été atténué dans la spécification de la table 2.2.

14. En juin 2022 seuls 45,6 % des individus inscrits à Pôle Emploi sont indemnisés (source : Pôle Emploi).

15. En effet, les mécanismes sous-jacents sont complexes et correspondent à des processus plutôt qu'à des événements identifiables. L'approche quantitative sur ce genre de questions est nécessairement limitée et complémentaire d'approches sociologiques plus qualitatives. La vocation de l'article est bien de compléter un débat resté théorique, et non de trancher entre des ensembles d'explications qui ne s'excluent pas les uns des autres.

IV Résultats

La table 2.2 présente les résultats de cinq modèles différents de régressions logistiques de la variable dépendante, le sentiment d'exclusion sociale, sur les contrôles et variables explicatives. Les résultats de la table 2.2 sont présentés en odds ratios, tandis que les coefficients estimés apparaissent dans la table 2.4 en annexe. Le modèle (1) comprend uniquement les variables de contrôle : l'âge, le genre, le décile de revenu avant prestations, le statut matrimonial et la taille de l'unité urbaine. Dans les modèles (2) à (4), nous ajoutons un par un à ces variables de contrôle les déterminants de l'exclusion sociale évoqués plus haut : le statut d'activité dans le modèle (2), la pauvreté en conditions de vie dans le modèle (3) et enfin les transferts sociaux dans le modèle (4). Le modèle (5) est le plus complet car il comprend toutes les variables explicatives. Ces différentes spécifications nous permettent de tester notre hypothèse de recherche, selon laquelle la situation d'assistance serait primordiale dans la compréhension du sentiment d'exclusion reporté par les répondants. Nous commençons par détailler le lien entre les variables de contrôle et la variable dépendante, et nous discutons dans un second temps de l'hypothèse testée.

IV.1 Effet des variables de contrôle sur le sentiment d'exclusion

Tout d'abord, l'âge ne protège pas du sentiment d'exclusion puisque le fait d'être jeune (entre 16 et 30 ans) est corrélé négativement avec la variable dépendante. Les répondants les plus âgés sont les plus enclins à reporter une valeur comprise entre 0 et 3 pour le sentiment d'intégration, comme le montrent également les coefficients positifs et significatifs associés à la variable « Retraités ».

Quel que soit le modèle considéré, le statut matrimonial, quant à lui, ne semble pas lié au sentiment d'exclusion. Cela pourrait s'expliquer par le fait que les catégories considérées empêchent de saisir le rôle de ces variables dans le sentiment d'exclusion. Comme le rappelle Lahieyte (2020) la variable de « statut matrimonial » ne permet pas de mesurer l'intensité des liens familiaux, qui elle pourrait avoir un effet « pur » sur le sentiment d'exclusion. La variable de « statut matrimonial » n'a de rôle sur le sentiment d'exclusion qu'à travers le fait que certains individus appartenant à une catégorie spécifique, comme celle de famille monoparentale, connaissent une intégration plus difficile au marché des biens et services¹⁶.

En revanche, nos résultats suggèrent un fort effet de la variable « sexe », d'une magnitude égale dans tous les modèles : les hommes sont davantage enclins à reporter une valeur comprise entre 0 et 3 à la question de leur sentiment d'exclusion et entre 7 et 10 quand il s'agit de leur sentiment d'intégration (voir la partie 4.3). Cette tendance à reporter des valeurs plus extrêmes que celles des femmes pourrait être expliquée par la représentation différenciée du groupe de référence en fonction du genre, l'écart au groupe de référence jouant un rôle déterminant dans le développement du sentiment d'exclusion (Autès, 1995). En effet, historiquement, les femmes en France ont subi une exclusion forcée des espaces d'intégration légitimes décrits par Castel (1995), soit le marché du travail et le marché des biens et services, et subissent encore un accès plus contraint que les hommes au marché du travail¹⁷. Les hommes pourraient donc

16. Lorsque l'on enlève le décile de revenus des variables explicatives et que l'on contrôle seulement pour le sexe, l'âge et la taille d'unité urbaine des répondants, le statut matrimonial devient significatif (en particulier, les familles monoparentales se sentent davantage exclues).

17. La loi exclut encore partiellement les femmes de certaines professions et de la libre gestion de leurs biens matériels dans la deuxième moitié du vingtième siècle. Si les femmes et les hommes ont désormais des taux d'activité proches à la

reporter des valeurs plus extrêmes que celles des femmes, toutes choses égales par ailleurs, dans la mesure où ils percevraient un écart relatif plus important avec leur groupe de référence. Il faut toutefois nuancer cette interprétation car, comme le rappelle Clair (2012) (p.8), le genre n'est pas une variable mais un concept relationnel : ainsi, l'effet du genre sur le sentiment d'exclusion ne pourrait être correctement identifié sans être mis en perspective au sein d'une situation sociale particulière¹⁸.

Quant au décile de revenu avant prestations, il semble fortement corrélé au sentiment d'exclusion, puisqu'on constate l'existence d'un gradient liant positivement le revenu au sentiment d'intégration. Comme l'indiquent les odds-ratio dans le modèle (1), toutes choses égales par ailleurs, la probabilité de se sentir exclu, par rapport à un individu appartenant au décile 10, est 6,19 fois supérieure pour un individu du décile 1. Cette probabilité décroît ensuite fortement à partir du décile 2, puis plus progressivement jusqu'au décile 8. Ce gradient varie peu lorsque l'on ajoute la perception d'aides sociales (modèle (4)), mais davantage lorsqu'on tient compte du statut d'activité de l'individu ou de sa pauvreté matérielle : ainsi, dans les modèles (2) et (3), un individu du décile 1 a une probabilité seulement 2,8 à 3,3 fois supérieure de se déclarer exclu par rapport à un individu du décile 10. Il convient néanmoins de souligner que dans le modèle (5), où l'on contrôle pour toutes ces variables, le coefficient associé au décile 1 de revenu avant prestations n'est plus significatif, ce qui semble indiquer que le sentiment d'exclusion est davantage imputable aux conditions de vie des répondants ou à leur situation sur le marché du travail qu'à leur revenu en soi.

TABLE 2.2 – Déterminants du sentiment d'exclusion

	(1)	(2)	(3)	(4)	(5)
Âge					
16-30 ans	0.620** (-2.58)	0.854 (-0.63)	0.602** (-2.69)	0.604** (-2.64)	0.987 (-0.05)
30-45 ans	0.709* (-2.22)	0.763 (-1.22)	0.693* (-2.37)	0.785 (-1.50)	0.933 (-0.31)
45-60 ans	0.999 (-0.00)	0.983 (-0.09)	0.941 (-0.51)	0.975 (-0.21)	1.005 (0.02)
Plus de 60 ans	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Sexe					
Femmes	0.760** (-3.05)	0.694*** (-3.92)	0.731*** (-3.43)	0.760** (-3.04)	0.684*** (-4.04)
Hommes	1	1	1	1	1

sortie des études, un écart important demeure pour les personnes les ayant terminées depuis plus longtemps. Les femmes ont également une situation plus défavorable en matière de sous-emploi, d'emploi à durée limitée et de salaires (Junel, 2019). Ces facteurs ont pu contribuer à introduire un groupe de référence différencié selon le genre, les femmes évaluant leur situation en matière d'exclusion par rapport à un groupe de référence déjà moins intégré.

18. Lahieyte (2020) propose à ce titre d'articuler le concept de genre « aux différentes dimensions d'une configuration sociale donnée », invitant par exemple à étudier l'effet différencié selon le genre du statut matrimonial sur le sentiment d'exclusion.

	(.)	(.)	(.)	(.)	(.)
Décile de revenu avant prestations					
Décile 1	6.192***	3.270***	2.764***	4.781***	1.757
	(7.18)	(4.49)	(3.76)	(5.58)	(1.86)
Décile 2	3.865***	2.607***	2.268**	3.329***	1.781*
	(5.26)	(3.72)	(3.16)	(4.49)	(2.11)
Décile 3	3.341***	2.539***	2.402***	3.041***	1.995**
	(4.45)	(3.46)	(3.39)	(4.10)	(2.58)
Décile 4	2.202**	1.758*	1.710*	2.103**	1.489
	(2.85)	(2.06)	(2.03)	(2.66)	(1.49)
Décile 5	1.688	1.470	1.379	1.669	1.348
	(1.73)	(1.30)	(1.10)	(1.70)	(1.04)
Décile 6	1.498	1.342	1.261	1.463	1.191
	(1.40)	(1.02)	(0.83)	(1.33)	(0.62)
Décile 7	1.259	1.191	1.172	1.262	1.167
	(0.71)	(0.53)	(0.49)	(0.71)	(0.46)
Décile 8	0.820	0.798	0.763	0.840	0.779
	(-0.64)	(-0.72)	(-0.89)	(-0.56)	(-0.82)
Décile 9	0.500*	0.510	0.503*	0.522	0.537
	(-1.98)	(-1.92)	(-1.99)	(-1.85)	(-1.78)
Décile 10	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Statut matrimonial					
Famille monoparentale	0.927	0.815	0.712	1.056	0.856
	(-0.42)	(-1.12)	(-1.76)	(0.27)	(-0.75)
Couple sans enfants	1.057	0.826	0.963	1.067	0.815
	(0.44)	(-1.48)	(-0.29)	(0.48)	(-1.47)
Couple avec enfants	1.342	1.043	1.050	1.722**	1.217
	(1.77)	(0.26)	(0.31)	(2.79)	(1.03)
Autre	1.238	0.889	0.968	1.330	0.920
	(0.62)	(-0.33)	(-0.09)	(0.79)	(-0.21)
Célibataire	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Taille de l'unité urbaine					
Région rurale	1.290	1.266	1.471	1.347	1.466
	(1.01)	(0.94)	(1.55)	(1.18)	(1.55)
Ville moyenne	1.348	1.268	1.460	1.351	1.415
	(1.17)	(0.93)	(1.50)	(1.18)	(1.37)

Grande ville (sauf Paris)	1.104 (0.40)	1.073 (0.29)	1.240 (0.88)	1.098 (0.39)	1.229 (0.87)
Paris	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Pays de naissance					
DOM-TOM	0.807 (-0.35)	0.805 (-0.34)	0.680 (-0.63)	0.746 (-0.47)	0.665 (-0.64)
UE-15	0.832 (-0.70)	0.891 (-0.44)	0.790 (-0.85)	0.859 (-0.58)	0.851 (-0.59)
Europe de l'Est	4.369 (1.90)	4.092 (1.91)	5.202* (2.13)	4.174 (1.94)	4.799* (2.26)
Maghreb	0.644 (-1.65)	0.576* (-2.03)	0.551* (-2.12)	0.639 (-1.65)	0.512* (-2.34)
Afrique (hors Maghreb)	0.878 (-0.35)	0.850 (-0.43)	0.626 (-1.22)	0.910 (-0.26)	0.663 (-1.07)
Autre	1.028 (0.08)	0.898 (-0.30)	1.079 (0.22)	0.993 (-0.02)	0.963 (-0.10)
France	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut d'activité					
Etudiants		0.485 (-1.43)			0.455 (-1.54)
Au chômage		3.705*** (7.35)			3.008*** (5.80)
Retraités		1.436 (1.79)			1.473 (1.90)
Inactifs		4.311*** (9.45)			3.782*** (8.52)
En emploi		1 (.)			1 (.)
Statut de pauvreté					
Pauvre en conditions de vie			4.599*** (10.76)		4.143*** (9.93)
Non pauvre en conditions de vie			1 (.)		1 (.)
Transferts					
Allocations familiales				0.563** (-2.71)	0.591* (-2.47)

Allocations logement				1.395*	1.055
				(2.54)	(0.40)
Aides sociales				1.477*	1.210
				(2.06)	(1.05)
Allocations chômage				1.133	0.957
				(0.66)	(-0.23)
Pas de transferts				1.134	1.147
				(0.58)	(0.64)
Observations	13852	13852	13852	13852	13852
Pseudo R^2	0.052	0.085	0.091	0.060	0.121

Exponentiated coefficients; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : La variable dépendante est une indicatrice valant 1 si l'enquêté a répondu entre 0 et 3 à la question sur le sentiment d'intégration, 0 sinon. Les odds-ratios s'interprètent à l'aune d'une sous-catégorie de référence précisée pour chaque variable, sauf dans le cas des variables de transfert, qui sont des variables indicatrices dont la référence est simplement l'absence de transfert. Dans le modèle (3), le fait d'être pauvre en conditions de vie est associé à une probabilité 4.6 fois plus élevée de répondre entre 0 et 3 à la question sur le sentiment d'intégration par rapport à un individu qui n'est pas pauvre matériellement, toutes choses égales par ailleurs. Ce coefficient est significatif à 0.1 %. Dans le modèle (5), cette probabilité diminue légèrement (elle est 4.14 fois plus élevée) lorsqu'on contrôle également pour l'effet de l'assistance. Le fait de percevoir des aides au logement, des aides sociales ou des allocations-chômage n'est pas significativement associé à un sentiment d'exclusion plus important. Par contre, les individus bénéficiant des allocations familiales ont une probabilité 44 % plus faible (1-0.56) de répondre entre 0 et 3 à la question d'intégration par rapport aux individus qui ne les perçoivent pas.

Quel que soit le modèle considéré, les coefficients associés à la taille de l'unité urbaine des répondants ne sont pas significatifs. La magnitude de ces coefficients, tous strictement supérieurs à 1 pour les habitants des régions rurales et des villes moyennes, suggère toutefois que l'éloignement des grandes villes pourrait jouer un rôle négatif sur le sentiment d'intégration. Toutefois, à la suite de certains travaux ayant mis en parallèle les « campagnes en déclin » (Coquard, 2019) et les grandes tours en banlieue des villes sur la question de l'isolement relationnel subi par les classes populaires (Riffaut et al., 2023), nous formulons l'hypothèse que la variable géographique prise isolément n'est pas nécessairement la plus pertinente pour expliquer le sentiment d'exclusion. Nous remplaçons donc la variable de la densité urbaine, qui permettait de cerner la proximité aux espaces légitimes des grandes villes dans la lignée de la « théorie du feu de camp » (Halbwachs, 1912), par le type d'habitat au voisinage du logement, en espérant capter une dynamique plus transversale, à la fois sociale et géographique. Nous observons que les individus vivant dans des immeubles en ville se déclarent plus intégrés que les autres, tandis que les répondants habitant en lotissement ou dans une cité reportent un sentiment d'exclusion plus élevé. Cependant, une fois pris en compte le statut d'activité du répondant, son niveau de pauvreté matérielle et la perception éventuelle de transferts sociaux, ce sont les habitants des zones pavillonnaires et des habitats ruraux composés de maisons dispersées qui reportent davantage se sentir exclus.¹⁹

19. Les résultats des régressions sont disponibles dans la table 2.8 en annexe.

Les parcours migratoires des enquêtés semblent également compter dans le sentiment d'exclusion qu'ils reportent. Par rapport aux individus nés en France, la majorité des répondants nés à l'étranger (sauf Europe de l'Est) déclarent se sentir plus intégrés, en particulier les répondants nés au Maghreb dont les coefficients sont significatifs à 5 %. Ces résultats, pourraient s'interpréter de deux manières différentes. Tout comme les résultats relatifs à la variable « sexe », les réponses élevées fournies par la majorité des individus nés à l'étranger vivant en France concernant leur sentiment d'intégration pourraient s'expliquer par le fait que leurs groupes de référence connaîtraient, en moyenne, davantage de mécanismes de relégation.²⁰ Cette interprétation est cohérente avec le fait que les répondants nés hors de l'Union Européenne déclarent se sentir plus intégrés, puisque leur groupe de référence subirait un éloignement plus important au sein du marché du bien et du marché du travail.²¹ En outre, ces résultats peuvent aussi s'expliquer par « l'injonction » à l'intégration décrite par la littérature (Sayad, 1994, 2004), qui pousserait les répondants à reporter des valeurs plus élevées.²² Au contraire, lorsque le pays de naissance correspond aux pays d'Europe centrale et orientale entrés dans l'Union Européenne en 2004 (Tchéquie, Estonie, Hongrie, Lettonie, Lituanie, Pologne, Slovaquie, Slovénie, Chypre et Malte), les individus se sentent davantage exclus : le coefficient est environ 5 fois supérieur et significatif à 5 % dans les modèles (3) et (5).

IV.2 Importance relative des déterminants objectifs et assistanciers

Nous ajoutons tour à tour les déterminants dits objectifs du sentiment d'exclusion – éloignement du marché du travail et du marché des biens et services, respectivement mesurés par le statut d'activité la pauvreté en conditions de vie – dans les modèles (2) et (3), puis les déterminants assistanciers, via les variables indicatrices de la perception des différents transferts, dans le modèle (4). Dans le modèle (2), les coefficients associés à la privation d'emploi, c'est-à-dire aux situations de chômage et d'inactivité, sont significativement et positivement associés au sentiment d'exclusion sociale, la magnitude du coefficient associé à l'inactivité étant plus importante : par rapport à un individu en emploi, plus un individu est éloigné du marché du travail, moins il a de chances de se sentir intégré. Dans le modèle (3), la pauvreté en conditions de vie a également un lien fort avec le sentiment d'exclusion, du même ordre de magnitude que l'effet du chômage ou de l'inactivité. Au contraire, le fait d'être ciblé par l'aide sociale est plus faiblement lié au sentiment d'exclusion des individus. Si le fait de percevoir des allocations logement ou bien des aides sociales est associé au sentiment d'exclusion dans le modèle (4), cet effet disparaît lorsqu'on ajoute les variables de statut d'activité et de pauvreté dans le modèle (5). Quant aux allocations familiales, elle semblent au contraire protéger du sentiment d'exclusion. Ces résultats semblent donc conforter l'hypothèse de Castel (1995) et de Duvoux and Papuchon (2018) selon laquelle l'éloignement du marché du travail et l'éloignement du marché des biens et services sont des déterminants du sentiment d'exclusion. Il semblerait

20. Les individus nés à l'étranger et résidant en France définis comme des personnes immigrées subissent en effet en moyenne un éloignement plus important sur le marché du travail et le marché des biens. En 2018, leur niveau de vie moyen avant versement des prestations et prélèvement des impôts est inférieur de 26 % à celui des personnes non-immigrées. Ils sont aussi davantage exposés au chômage : 8,5 % en moyenne contre 4,7 % pour les non-immigrés (INSEE, *Revenus et patrimoine des ménages*, 2021).

21. A titre d'exemple, le taux de pauvreté des personnes d'origine africaine (39,5%) est plus de vingt points supérieur à celui des personnes d'origine européenne (17,6%).

22. Il faut à ce titre rappeler que les coefficients concernant les répondants nés au Maghreb sont significatifs à 5 %.

que l'effet de stigmatisme associé à la situation d'assistance n'ait pas d'effet en soi, en d'autres termes n'existe pas en-dehors des conditions objectives auxquelles cette situation est associée, à savoir le faible décile de revenu, le statut d'inactivité ou de chômage, et les privations matérielles. Ce résultat n'invalide pas le rôle des rapports de stigmatisation qui pourraient être associés aux phénomènes objectifs d'éloignement des sphères légitimes de l'espace social décrits plutôt qu'à la prise en charge institutionnelle qui en résulte.

Dans l'objectif de comparer la magnitude des coefficients associés aux deux sous-ensembles de variables explicatives, et pas seulement leur précision à travers leur significativité, nous construisons deux indices standardisés d'étiquetage symbolique et de privation multidimensionnelle telle que décrite par Castel (1995). L'index d'étiquetage symbolique est égal au nombre de prestations dont bénéficie l'individu (chômage, logement ou sociale). L'index de privation multidimensionnelle correspond au nombre de privations qu'il subit : il vaut 0, 1 ou 2 si la personne enquêtée cumule la pauvreté en conditions de vie et l'éloignement du marché du travail (soit par le chômage, soit l'inactivité). Afin de comparer leur importance relative, nous comparons la contribution au R^2 de chaque index (Johnson and LeBreton, 2004). Si la littérature a introduit plusieurs métriques utiles à cet effet (Grömping, 2007), nous utilisons la mesure développée par Lindeman (1980) dite « LMG » qui a pour avantage d'être robuste à la corrélation des régresseurs, et est recommandée par Johnson and LeBreton (2004) et par Grömping (2007)²³ pour cette raison. Cette approche consiste à décomposer le R^2 de manière séquentielle en ajoutant le régresseur en fonction de son ordre dans la régression afin d'estimer son effet explicatif. Néanmoins, cette approche a pour désavantage d'aboutir à des décompositions différentes selon l'ordre arbitraire des régresseurs s'ils sont corrélés. Par conséquent, la métrique fait la moyenne de tous les R^2 séquentielles sur tous les ordres des régresseurs possibles. L'index de privation multidimensionnelle explique à lui seul près de 58 % du R^2 contre seulement 3 % pour l'index d'étiquetage symbolique, ce qui laisse suggérer l'importance de l'intégration au marché du travail et au marché des biens²⁴. Il faut néanmoins préciser à nouveau que ces résultats n'invalident pas l'existence d'une relation d'assignation qui peut naître de l'éloignement au sein de ces deux espaces légitimes et de sources différentes, à la fois institutionnelle ou issue du groupe des pairs.

IV.3 Hétérogénéité des résultats sur les transferts

La spécification principale regroupe les différents types de transferts que les ménages sont susceptibles de percevoir – assurance-chômage, aides au logement, minima sociaux et allocations familiales – afin de jauger de l'effet global d'un étiquetage symbolique par les institutions. Toutefois, ces prestations sont versées aux ménages ou aux individus selon des critères différents comme les conditions de ressources, la composition du ménage ou l'âge, et donc ne ciblent pas les mêmes bénéficiaires. Elles diffèrent également par leur potentiel de stigmatisation, qui est généralement plus élevé dans le cas du RSA et de l'assurance-chômage que pour les prestations familiales ou les aides au logement, et que reflète le taux élevé de non-recours à ces aides. Il convient donc d'ouvrir la boîte noire de l'estimation logistique et de préciser ce que l'on peut saisir, au travers de l'interprétation des coefficients associés à chacune des variables

23. Nous utilisons ici le package `relaimpo` proposé par Grömping (2007).

24. Le reste du R^2 est expliqué par les variables de contrôle.

indicatrices relatives à la situation d'assistance, du lien entre le sentiment d'exclusion reporté et le type de prestation perçue.

Tout d'abord, afin de tenir compte des différentes situations de chômage, à la fois en termes d'ancienneté et de perception ou non de l'allocation au moment de l'enquête, nous reproduisons l'analyse en éclatant l'indicatrice de chômage en quatre indicatrices correspondant aux quatre possibilités évoquées. Nous distinguons ainsi les chômeurs de longue durée, qui se trouvent au chômage depuis au moins 12 mois, des chômeurs de courte durée, et les chômeurs déclarant percevoir des allocations-chômage au moment de l'enquête de ceux qui n'en perçoivent pas. D'après nos données, il existe environ 40 % de chômeurs qui ne perçoivent pas d'allocation-chômage, ce qui coïncide avec les chiffres de 25 à 42 % de non-recourants à l'assurance-chômage estimés par la Direction de l'animation de la recherche, des études et des statistiques (DARES) dans son rapport de 2022²⁵. Nous présentons les résultats dans la table 2.9 en annexe, dans laquelle nous distinguons également entre l'emploi salarié (CDI ou CDD) et non-salarié. D'après ces estimations, ce sont les chômeurs de courte durée (depuis moins de 12 mois) ne déclarant pas bénéficier de l'assurance-chômage au moment de l'enquête qui se sentent les plus exclus, une fois que l'on contrôle pour la pauvreté matérielle et les autres prestations sociales (colonne 5). L'ancienneté vis-à-vis du chômage ne semble pas être un critère déterminant dans l'explication du sentiment d'exclusion, tandis que la perception de l'assurance-chômage est associée à un moindre sentiment d'exclusion reporté par les chômeurs.

Nous nous concentrons ensuite sur les aides au logement et les transferts sociaux. Nous écartons les allocations familiales, qui sont versées à toutes les familles avec enfants, et dont le côté stigmatisant n'est ni documenté par la littérature ni constaté dans nos données. A l'inverse, les minima sociaux sont principalement attribués sous conditions de ressources, bien que leur perception dépende aussi d'autres critères (notamment d'âge et de résidence pour le RSA), et davantage associés à un étiquetage symbolique à la fois du côté des institutions et de celui des pairs. La Drees estime ainsi à 30 % le taux de non-recours au RSA dans son rapport de 2022 à partir de l'Enquête sur les revenus fiscaux et sociaux de l'Insee. Selon Fleurbaey et al. (1998), l'identification institutionnelle de l'exclusion suppose que les mécanismes d'attribution des aides fonctionnent correctement et bénéficient effectivement aux plus nécessiteux. Cependant, des dysfonctionnements peuvent survenir car tous les exclus ne possèdent pas la même capacité à s'informer et à entreprendre les démarches nécessaires. Ainsi, les coefficients associés à la perception du RSA et des autres aides sociales ou des aides au logement reflètent la discontinuité entre ressources et accès aux droits, c'est-à-dire l'écart entre bénéficiaires et non-recourants en termes d'exclusion reportée.²⁶ Afin de réduire l'éventualité d'erreurs de mesure dans notre modèle, nous restreignons la spécification aux ménages comparables en termes d'éligibilité au RSA, c'est-à-dire composés d'au moins une personne âgée de plus de 25 ans et appartenant au premier décile de revenu disponible avant prestations – nous contrôlons toutefois pour le niveau de revenu disponible, puisqu'il est plus faible en moyenne pour les

25. Le rapport est téléchargeable sur le site de la Dares.

26. Dans un monde où les prestations sociales seraient versées automatiquement en fonction des critères d'attribution — c'est-à-dire où le non-recours n'existerait pas — le fait d'inclure les critères du versement de ces allocations (ressources, composition du ménage, âge) dans la table en tant que contrôles neutraliserait l'effet de la perception des allocations représenté par les variables indicatrices. Cela implique néanmoins de supposer que les variables sociodémographiques prédisent parfaitement l'obtention de la prestation, et donc qu'il n'y a pas d'erreur de mesure ni de ciblage.

bénéficiaires de minima sociaux au sein du premier décile. Dans la table 2.10 (en annexe), nous réitérons la démarche pour différents types de ménages : la première colonne correspondant aux personnes seules, la seconde aux familles monoparentales et la troisième aux couples avec enfants (toujours âgés d'au moins 25 ans et appartenant au premier décile de revenu disponible avant prestations). D'après nos estimations, le sentiment d'exclusion n'est pas significativement différent pour les bénéficiaires du RSA, des aides au logement ou des deux à la fois par rapport aux non-recourants.

IV.4 Tests de robustesse

Nous testons nos résultats en modifiant la variable dépendante de l'analyse pour le sentiment d'intégration, défini comme une variable indicatrice valant 1 si l'enquêté a répondu entre 7 et 10 à la question. Notre objectif est ici de vérifier que l'effet des sous-ensembles de variables explicatives positivement associées au sentiment d'exclusion est négativement corrélé au sentiment d'intégration. La table 2.5 en annexe présente les résultats des régressions à partir de la variable dépendante du sentiment d'intégration. Une certaine régularité dans la magnitude et la significativité des coefficients peut être constatée d'une spécification à l'autre : la variable d'âge est significative, les individus jeunes ayant une propension supérieure à déclarer se sentir intégrés ; la variable du décile de revenu avant prestations est très liée au sentiment d'intégration, avec un gradient négatif du décile 1 au décile 8 ; les personnes pauvres matériellement, ou bien inactives ou au chômage déclarent moins se sentir intégrées ; enfin, on observe que l'effet négatif des allocations logement, chômage ou sociales s'annule avec l'inclusion de l'indicatrice de pauvreté matérielle et de la situation sur le marché du travail. Cependant, le fait de bénéficier d'aides sociales (du type RSA) est négativement et significativement associé avec le fait de reporter un sentiment d'intégration supérieur ou égal à 7/10 (bien que faiblement). Si le sentiment d'exclusion n'est pas réductible à la situation d'assistance, il semblerait que les aides sociales n'aient cependant pas d'effet intégrateur pour les bénéficiaires. D'autres différences notables sont à relever : les retraités, s'ils ne se sentent pas plus exclus que les personnes en emploi, se déclarent cependant moins souvent intégrés ; les personnes vivant en zone rurale et en villes moyenne déclarent moins souvent un sentiment d'intégration supérieur ou égal à 7/10 ; enfin, les individus nés au Maghreb ou dans un pays correspondant à l'Union Européenne des 15 déclarent davantage se sentir intégrés que les autres (les coefficients sont particulièrement significatifs pour les répondants nés au Maghreb), contrairement aux originaires d'Europe centrale ou de l'Est qui reportent beaucoup moins des valeurs comprises entre 7 et 10 pour le sentiment d'intégration.

Dans un second temps, nous adoptons une démarche agnostique concernant la proportionnalité des seuils de l'échelle de réponse à la question d'intégration sociale : au lieu de regrouper les seuils entre eux, nous réalisons onze ensembles de régressions complémentaires dont les variables dépendantes sont des indicatrices correspondant à chacun des seuils de réponse. Cela nous permet de mettre en évidence à quel endroit de l'échelle de réponse interviennent respectivement chacune des variables explicatives. Les résultats de la table 2.7 (en annexe) nous montrent en particulier que l'éloignement du marché du travail (*via* le fait d'être au chômage ou inactif) et la pauvreté matérielle semblent avoir un effet en « U », en ce qu'ils déterminent surtout les réponses extrêmes (entre 0 et 4, puis entre 8 et 10), avec un effet beaucoup plus faible pour les réponses moyennes. Les prestations familiales semblent avoir un rôle protecteur vis-

à-vis de l'exclusion, puisque les personnes qui en bénéficient reportent moins que les autres une réponse comprise entre 0 et 4 à la question de l'intégration sociale. Quant à la perception des autres prestations sociales, de logement ou de l'assurance-chômage, elle est associée positivement et significativement au fait de répondre 5 ou 6 à la question d'intégration, mais ne semble pas intervenir plus bas dans l'échelle de réponse. Les personnes déclarant se sentir exclues (avec une réponse inférieure à 5) semblent donc être avant tout plus défavorisées que les autres sur le plan des conditions de vie et du statut d'activité, tandis que le rôle de l'assistance semble peu déterminant pour les premiers échelons de réponse, ce qui confirme nos résultats évoqués plus haut. Enfin, la décomposition par seuil nous apprend également que le rôle du pays de naissance est principalement imputable au fait que les individus originaires d'Europe centrale et orientale ont massivement répondu 3/10 à la question sur le sentiment d'intégration, tandis que les individus nés au Maghreb ont bien davantage reporté les valeurs 9 et 10.

Enfin, nous répliquons toutes ces analyses à partir des données SRCV 2022.²⁷ Ces dernières ont l'avantage de comporter quasiment le double de répondants (22 650 au lieu de 13 852). Toutes les variables sont identiques sauf la question sur le sentiment d'intégration, dont le libellé est modifié de la manière suivante : « Dans quelle mesure êtes-vous d'accord avec l'affirmation "Je me sens exclu(e) de la société" ? ». Cinq modalités de réponse sont proposées, allant de « Tout à fait d'accord » à « Pas du tout d'accord ». Le changement est donc substantiel puisque la question est formulée plus explicitement en termes de sentiment d'exclusion, et la distribution des réponses (figure 2.3) montre une écrasante majorité de répondants intégrés, puisqu'environ 50 % de l'échantillon répond « Pas du tout d'accord ». Nous définissons le sentiment d'exclusion par le fait de répondre 1 ou 2 sur 5 à la question, ce qui est le cas pour 9 % des répondants, soit environ 2000 personnes. Malgré le changement de libellé de la variable dépendante, toutes nos régressions sont identiques en termes de significativité et de magnitude des coefficients estimés, et confirment donc nos résultats pour 2018. En particulier, dans le cas de l'hétérogénéité selon le type de transfert reçu pour laquelle les échantillons sont réduits, et où le pouvoir statistique était faible, nous trouvons un résultat très comparable, à savoir qu'il n'y a pas d'effet additionnel de la perception du RSA ou des aides au logement sur le sentiment d'exclusion.

V Conclusion

Ces résultats appellent d'abord à la plus grande prudence interprétative. Comme le remarque Lahieyte (2020), analyser ainsi la variable du sentiment d'exclusion présuppose une attitude uniforme des individus face au questionnaire, ce qui n'est probablement pas le cas, tant le vocable d'exclu peut à la fois représenter un stigmate important et un instrument de son retournement. Deux autres éléments appellent également à la prudence. En premier lieu, Gallie et al. (2003) soulignent que l'exclusion sociale et ses déterminants font probablement l'objet d'une relation auto-entretenu : en renforçant par exemple la privation de l'accès au marché du travail, le sentiment d'exclusion se traduirait par un processus cumulatif qui n'est mesurable qu'à travers des données longitudinales. En second lieu, les catégories mobilisées empêchent de saisir les différentes hiérarchisations qui peuvent être déterminantes dans le développement

27. Les résultats pour 2022 sont disponibles sur demande.

du processus d'exclusion, ce que notaient déjà Elias et al. (2001) dans leur enquête réalisée en 1959-1960 dans une commune de la banlieue d'une ville industrielle des Midlands en Angleterre ou, plus récemment, Cartier (2008) dans son enquête sur les banlieues pavillonnaires. A titre d'exemple, d'importantes hiérarchisations sont probablement à l'oeuvre au sein de la variable géographique que nous utilisons pour l'analyse, la taille de l'unité urbaine. De la même manière, nos résultats ne permettent probablement pas de capter la diversité des situations subjectives qui peuvent donner lieu au développement du sentiment d'exclusion, en fonction de l'âge ou du genre par exemple. Ainsi, comme le remarquent Gidron and Hall (2020), l'utilisation d'une variable subjective du sentiment d'intégration pousse à distinguer le statut social subjectif, défini par le sentiment d'appartenance à la société, du statut social objectif, se référant à la hiérarchie des caractéristiques sociales légitimes telles que le revenu, le niveau d'éducation ou les marqueurs du statut socioéconomique (Blau and Duncan, 1967; Ridgeway and Walker, 1995). Si ces deux éléments sont empiriquement et théoriquement distincts (Singh-Manoux et al., 2003), ils peuvent se confondre lorsque des éléments objectifs comme le marché du travail ou le marché des biens sont construits comme des espaces de légitimité dont l'accès détermine le sentiment d'intégration. Cette construction historique a pu être en France le reflet d'un travail institutionnel, relatif à la construction de la citoyenneté et de la nationalité (Favell, 1998).

Malgré ces différentes limites, nos résultats suggèrent que l'éloignement au sein d'espaces sociaux légitimes – le marché du travail, le marché des biens ou les zones urbaines centrales – est un facteur heuristique lorsqu'il s'agit de rendre compte du sentiment d'exclusion sociale. Le présent article n'a cependant pas pour ambition de se positionner en faveur d'un groupe de facteurs explicatifs plutôt qu'un autre. Il soutient plutôt que les deux traditions précédemment décrites ne s'opposent en réalité qu'à première vue, tant l'assistance ou d'autres phénomènes objectifs correspondent à l'intériorisation de normes sociales et institutionnelles légitimes. Comme le remarque Paugam (2020), le cadre analytique fourni par Simmel (1998) est flexible, dans la mesure où les divers processus d'assignation qui peuvent être à l'origine du sentiment d'exclusion sont susceptibles de naître d'une pluralité de situations. Ainsi le présent article plaide plutôt pour un élargissement que pour une disparition de ce cadre, afin de saisir de manière cohérente la pluralité des expériences de relégation qui peuvent donner lieu au sentiment d'exclusion, ainsi que la pluralité des acteurs, aussi bien institutionnels qu'issus des autres sphères de la vie sociale occupée par l'individu comme le groupe des pairs, qui en est à l'origine.

Annexe

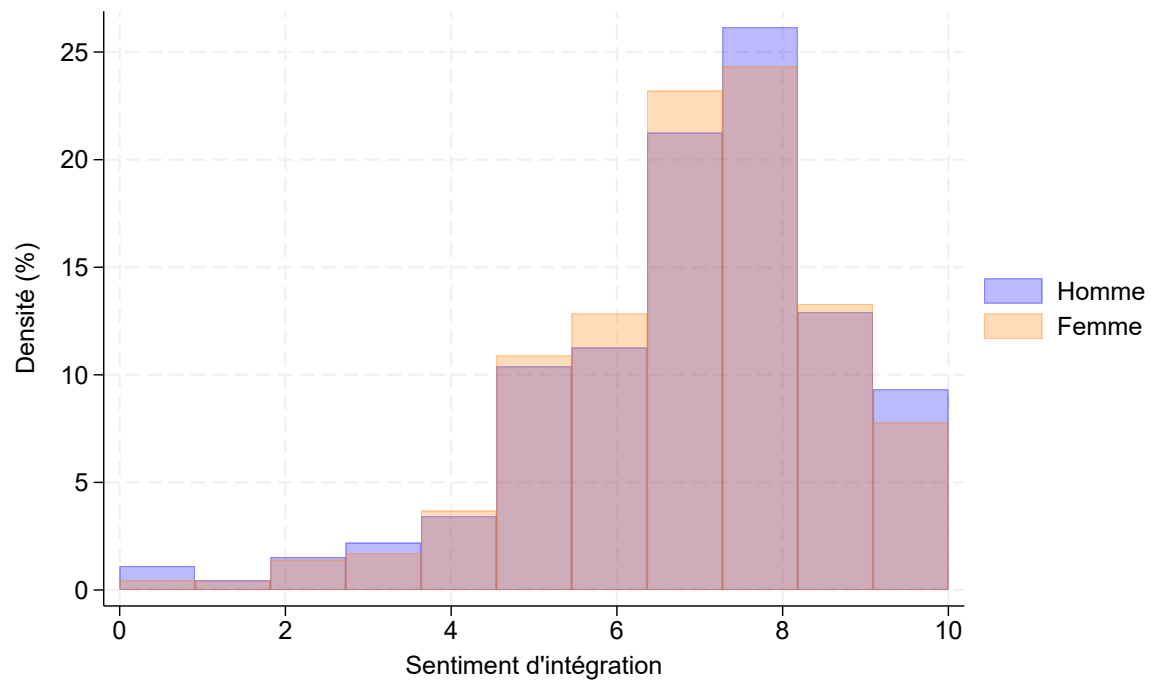


FIGURE 2.2 – Distribution de la variable du sentiment d'intégration par sexe au sein des ménages constitués d'un couple hétérosexuel

Source : SRCV 2018

Lecture : En 2018, environ 30 % de l'échantillon total (4156 sur 13858 personnes) ont répondu 8 sur 10 à la question sur le sentiment d'intégration.

TABLE 2.3 – Caractéristiques des répondants à la question sur le sentiment d'intégration

	Tous répondants	Répondants exclusion	Répondants exclusion pondérés
16-24 ans	0.122	0.047	0.121
25-34 ans	0.112	0.106	0.111
35-44 ans	0.143	0.148	0.143
45-54 ans	0.173	0.182	0.173
55-64 ans	0.177	0.197	0.179
65-74 ans	0.164	0.196	0.163
Plus de 74 ans	0.109	0.125	0.110
Sexe			
Femmes	0.526	0.580	0.527
Hommes	0.474	0.420	0.473
Décile de revenu avant prestations			
Décile 1	0.089	0.096	0.089
Décile 2	0.103	0.118	0.104
Décile 3	0.103	0.112	0.102
Décile 4	0.104	0.111	0.103
Décile 5	0.103	0.104	0.102
Décile 6	0.101	0.101	0.102
Décile 7	0.098	0.094	0.097
Décile 8	0.100	0.093	0.101
Décile 9	0.098	0.086	0.098
Décile 10	0.101	0.085	0.101
Famille monoparentale	0.087	0.079	0.084
Couple sans enfants	0.333	0.364	0.336
Couple avec enfants	0.388	0.314	0.384
Autre	0.028	0.021	0.029
Statut matrimonial			
Célibataire	0.164	0.223	0.166
Taille de l'unité urbaine			
Région rurale	0.400	0.397	0.399
Ville moyenne	0.190	0.190	0.188
Grande ville (sauf Paris)	0.302	0.310	0.304
Paris	0.108	0.102	0.109
Pays de naissance			
DOM-TOM	0.007	0.007	0.007

TABLE 2.3 – Caractéristiques des répondants à la question sur le sentiment d’intégration (*suite*)

	Tous répondants	Répondants exclusion	Tous répondants (poids)
UE-15	0.028	0.028	0.028
Europe de l’Est	0.001	0.001	0.001
Maghreb	0.036	0.037	0.037
Afrique (hors Maghreb)	0.015	0.015	0.015
Autre	0.021	0.017	0.022
France	0.892	0.895	0.890
Statut d’activité			
Etudiants	0.085	0.027	0.079
Apprentis ou stagiaires	0.004	0.002	0.004
Au chômage	0.053	0.051	0.054
Retraités	0.324	0.382	0.324
Inactifs pour cause d’invalidité	0.014	0.015	0.014
Autres inactifs	0.043	0.047	0.044
En emploi	0.477	0.476	0.481
Statut de pauvreté			
Pauvre en conditions de vie	0.100	0.096	0.101
Transferts			
Allocations logement	0.237	0.234	0.239
RSA	0.130	0.117	0.129
Allocations familiales	0.313	0.269	0.326
Allocations chômage	0.194	0.173	0.190

Lecture : Tous les coefficients d’une catégorie correspondent à des moyennes dont la somme vaut 1. La première colonne présente les caractéristiques moyennes des répondants de l’enquête (19512 individus en 2018), la seconde présente celles des répondants à la question sur l’exclusion (13858 personnes) et la troisième et dernière colonne renseigne les caractéristiques moyennes de ce dernier groupe une fois pondéré. Ainsi, parmi les répondants de l’enquête, 12,2 % sont âgés de 16 à 24 ans, mais seuls 4,7 % de l’échantillon d’intérêt le sont. Une fois ce dernier groupe repondéré, la part des 16-24 ans s’élève à 12,1 %.

TABLE 2.4 – Déterminants du sentiment d'exclusion (coefficients)

	(1)	(2)	(3)	(4)	(5)
Âge					
16-30 ans	-0.478**	-0.157	-0.508**	-0.504**	-0.0134
	(-2.58)	(-0.63)	(-2.69)	(-2.64)	(-0.05)
30-45 ans	-0.343*	-0.271	-0.367*	-0.242	-0.0696
	(-2.22)	(-1.22)	(-2.37)	(-1.50)	(-0.31)
45-60 ans	-0.000549	-0.0170	-0.0607	-0.0255	0.00466
	(-0.00)	(-0.09)	(-0.51)	(-0.21)	(0.02)
Plus de 60 ans	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
Sexe					
Femmes	-0.274**	-0.366***	-0.313***	-0.274**	-0.380***
	(-3.05)	(-3.92)	(-3.43)	(-3.04)	(-4.04)
Hommes	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
Décile de revenu avant prestations					
Décile 1	1.823***	1.185***	1.017***	1.565***	0.564
	(7.18)	(4.49)	(3.76)	(5.58)	(1.86)
Décile 2	1.352***	0.958***	0.819**	1.203***	0.577*
	(5.26)	(3.72)	(3.16)	(4.49)	(2.11)
Décile 3	1.206***	0.932***	0.876***	1.112***	0.691**
	(4.45)	(3.46)	(3.39)	(4.10)	(2.58)
Décile 4	0.789**	0.564*	0.536*	0.743**	0.398
	(2.85)	(2.06)	(2.03)	(2.66)	(1.49)
Décile 5	0.524	0.385	0.322	0.513	0.299
	(1.73)	(1.30)	(1.10)	(1.70)	(1.04)
Décile 6	0.404	0.294	0.232	0.380	0.175
	(1.40)	(1.02)	(0.83)	(1.33)	(0.62)
Décile 7	0.230	0.175	0.159	0.233	0.155
	(0.71)	(0.53)	(0.49)	(0.71)	(0.46)
Décile 8	-0.199	-0.225	-0.271	-0.174	-0.250
	(-0.64)	(-0.72)	(-0.89)	(-0.56)	(-0.82)
Décile 9	-0.692*	-0.673	-0.687*	-0.650	-0.621
	(-1.98)	(-1.92)	(-1.99)	(-1.85)	(-1.78)
Décile 10	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)

TABLE 2.4 – Déterminants du sentiment d'exclusion (coefficients) (*suite*)

	(1)	(2)	(3)	(4)	(5)
Statut matrimonial					
Famille monoparentale	-0.0758 (-0.42)	-0.205 (-1.12)	-0.340 (-1.76)	0.0549 (0.27)	-0.156 (-0.75)
Couple sans enfants	0.0552 (0.44)	-0.191 (-1.48)	-0.0374 (-0.29)	0.0650 (0.48)	-0.205 (-1.47)
Couple avec enfants	0.294 (1.77)	0.0426 (0.26)	0.0491 (0.31)	0.543** (2.79)	0.196 (1.03)
Autre	0.213 (0.62)	-0.118 (-0.33)	-0.0326 (-0.09)	0.285 (0.79)	-0.0838 (-0.21)
Célibataire	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)
Taille de l'unité urbaine					
Région rurale	0.254 (1.01)	0.236 (0.94)	0.386 (1.55)	0.298 (1.18)	0.382 (1.55)
Ville moyenne	0.298 (1.17)	0.237 (0.93)	0.378 (1.50)	0.301 (1.18)	0.347 (1.37)
Grande ville (sauf Paris)	0.0986 (0.40)	0.0703 (0.29)	0.215 (0.88)	0.0937 (0.39)	0.206 (0.87)
Paris	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)
Pays de naissance					
DOM-TOM	-0.215 (-0.35)	-0.216 (-0.34)	-0.386 (-0.63)	-0.293 (-0.47)	-0.407 (-0.64)
UE-15	-0.184 (-0.70)	-0.115 (-0.44)	-0.236 (-0.85)	-0.152 (-0.58)	-0.161 (-0.59)
Europe de l'Est	1.474 (1.90)	1.409 (1.91)	1.649* (2.13)	1.429 (1.94)	1.568* (2.26)
Maghreb	-0.440 (-1.65)	-0.551* (-2.03)	-0.596* (-2.12)	-0.447 (-1.65)	-0.670* (-2.34)
Afrique (hors Maghreb)	-0.130 (-0.35)	-0.162 (-0.43)	-0.468 (-1.22)	-0.0946 (-0.26)	-0.411 (-1.07)
Autre	0.0277 (0.08)	-0.107 (-0.30)	0.0757 (0.22)	-0.00684 (-0.02)	-0.0374 (-0.10)
France	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)
Statut d'activité					

TABLE 2.4 – Déterminants du sentiment d'exclusion (coefficients) (*suite*)

	(1)	(2)	(3)	(4)	(5)
Etudiants		-0.724 (-1.43)			-0.787 (-1.54)
Au chômage		1.310*** (7.35)			1.101*** (5.80)
Retraités		0.362 (1.79)			0.388 (1.90)
Inactifs		1.461*** (9.45)			1.330*** (8.52)
En emploi		0 (.)			0 (.)
Statut de pauvreté					
Pauvre en conditions de vie			1.526*** (10.76)		1.421*** (9.93)
Non pauvre en conditions de vie			0 (.)		0 (.)
Transferts					
Allocations familiales				-0.574** (-2.71)	-0.526* (-2.47)
Allocations logement				0.333* (2.54)	0.0534 (0.40)
Aides sociales				0.390* (2.06)	0.190 (1.05)
Allocations chômage				0.125 (0.66)	-0.0437 (-0.23)
Pas de transferts				0.126 (0.58)	0.137 (0.64)
_cons	-3.939*** (-13.39)	-3.867*** (-11.73)	-3.839*** (-12.84)	-4.108*** (-12.14)	-4.107*** (-11.26)
Observations	13852	13852	13852	13852	13852
Pseudo R^2	0.052	0.085	0.091	0.060	0.121

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : La variable dépendante est une indicatrice valant 1 si l'enquêté a répondu entre 0 et 3 à la question sur le sentiment d'intégration, 0 sinon. Les coefficients en log-odds se lisent relativement à une sous-catégorie de référence précisée pour chaque variable, sauf dans le cas des variables de transfert, qui sont des variables indicatrices dont la référence est simplement l'absence de transfert. Dans le modèle (3), le fait d'être pauvre en conditions de vie est associé à une probabilité environ 4 fois plus élevée ($\exp(1.526)$) de répondre entre 0 et 3 à la question sur le sentiment d'intégration par rapport à un individu qui n'est pas pauvre matériellement, toutes choses égales par ailleurs.

TABLE 2.5 – Déterminants du sentiment d'intégration

	(1)	(2)	(3)	(4)	(5)
Âge					
16-30 ans	1.278** (2.86)	0.987 (-0.10)	1.294** (2.97)	1.365*** (3.54)	1.003 (0.02)
30-45 ans	1.201** (2.64)	1.042 (0.38)	1.204** (2.67)	1.201* (2.48)	1.009 (0.08)
45-60 ans	1.004 (0.08)	0.914 (-0.93)	1.026 (0.45)	1.034 (0.58)	0.929 (-0.76)
Plus de 60 ans	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Sexe					
Femmes	1.014 (0.35)	1.057 (1.34)	1.026 (0.61)	1.019 (0.45)	1.067 (1.54)
Hommes	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Décile de revenu avant prestations					
Décile 1	0.192*** (-12.64)	0.272*** (-9.73)	0.271*** (-9.67)	0.254*** (-9.60)	0.414*** (-5.97)
Décile 2	0.263*** (-10.52)	0.320*** (-8.93)	0.326*** (-8.72)	0.313*** (-8.86)	0.416*** (-6.59)
Décile 3	0.314*** (-9.07)	0.360*** (-8.09)	0.358*** (-8.10)	0.359*** (-7.91)	0.427*** (-6.61)
Décile 4	0.410*** (-6.93)	0.456*** (-6.14)	0.451*** (-6.25)	0.446*** (-6.25)	0.513*** (-5.22)
Décile 5	0.453*** (-6.17)	0.482*** (-5.72)	0.490*** (-5.58)	0.480*** (-5.74)	0.526*** (-5.05)
Décile 6	0.544*** (-4.69)	0.573*** (-4.32)	0.581*** (-4.23)	0.568*** (-4.40)	0.618*** (-3.76)
Décile 7	0.585*** (-3.98)	0.600*** (-3.78)	0.602*** (-3.76)	0.597*** (-3.87)	0.619*** (-3.56)
Décile 8	0.698** (-2.69)	0.705** (-2.62)	0.718* (-2.48)	0.701** (-2.66)	0.721* (-2.45)
Décile 9	0.966 (-0.24)	0.955 (-0.32)	0.968 (-0.23)	0.955 (-0.32)	0.948 (-0.38)
Décile 10	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)

TABLE 2.5 – Déterminants du sentiment d'intégration (*suite*)

	(1)	(2)	(3)	(4)	(5)
Statut matrimonial					
Famille monoparentale	0.905 (-1.11)	0.960 (-0.45)	1.028 (0.29)	0.954 (-0.46)	1.066 (0.62)
Couple sans enfants	0.845** (-2.66)	0.966 (-0.54)	0.883 (-1.95)	0.881 (-1.94)	1.012 (0.18)
Couple avec enfants	0.765*** (-3.53)	0.872 (-1.78)	0.846* (-2.21)	0.776** (-2.67)	0.910 (-0.98)
Autre	0.629** (-2.93)	0.751 (-1.86)	0.705* (-2.25)	0.703* (-2.14)	0.850 (-1.02)
Célibataire	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Taille de l'unité urbaine					
Région rurale	0.738** (-3.22)	0.739** (-3.22)	0.695*** (-3.80)	0.722*** (-3.45)	0.692*** (-3.84)
Ville moyenne	0.722** (-3.23)	0.741** (-2.97)	0.693*** (-3.58)	0.726** (-3.17)	0.715** (-3.27)
Grande ville (sauf Paris)	0.880 (-1.36)	0.887 (-1.28)	0.834 (-1.89)	0.884 (-1.31)	0.846 (-1.74)
Paris	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Pays de naissance					
DOM-TOM	1.304 (0.88)	1.302 (0.89)	1.405 (1.12)	1.355 (1.03)	1.418 (1.17)
UE-15	1.364* (2.43)	1.318* (2.17)	1.396* (2.56)	1.340* (2.29)	1.341* (2.25)
Europe de l'Est	0.278** (-2.81)	0.289** (-2.77)	0.269** (-3.01)	0.285** (-2.81)	0.283** (-2.98)
Maghreb	1.637*** (3.89)	1.779*** (4.46)	1.774*** (4.39)	1.684*** (4.05)	1.934*** (4.94)
Afrique (hors Maghreb)	1.222 (1.06)	1.245 (1.11)	1.480* (2.00)	1.233 (1.11)	1.471 (1.90)
Autre	1.103 (0.61)	1.226 (1.20)	1.102 (0.60)	1.139 (0.80)	1.238 (1.25)
France	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut d'activité					

TABLE 2.5 – Déterminants du sentiment d'intégration (*suite*)

	(1)	(2)	(3)	(4)	(5)
Etudiants		1.240 (1.33)			1.260 (1.40)
Au chômage		0.401*** (-9.56)			0.456*** (-7.74)
Retraités		0.761** (-2.81)			0.762** (-2.78)
Inactifs		0.366*** (-11.65)			0.388*** (-10.86)
En emploi		1 (.)			1 (.)
Statut de pauvreté					
Pauvre en conditions de vie			0.418*** (-10.76)		0.456*** (-9.55)
Non pauvre en conditions de vie			1 (.)		1 (.)
Transferts					
Allocations familiales				1.083 (0.81)	1.073 (0.70)
Allocations logement				0.801*** (-3.59)	0.893 (-1.79)
Aides sociales				0.738*** (-3.46)	0.805* (-2.44)
Allocations chômage				0.806* (-2.51)	0.876 (-1.49)
Pas de transferts				0.875 (-1.35)	0.874 (-1.35)
Observations	13852	13852	13852	13852	13852
Pseudo R^2	0.039	0.055	0.051	0.043	0.065

Exponentiated coefficients; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : La variable dépendante est une indicatrice valant 1 si l'enquêté a répondu entre 7 et 10 à la question sur le sentiment d'intégration, 0 sinon. Les odds-ratios s'interprètent à l'aune d'une sous-catégorie de référence précisée pour chaque variable, sauf dans le cas des variables de transfert, qui sont des variables indicatrices dont la référence est simplement l'absence de transfert. Dans le modèle (3), le fait d'être pauvre en conditions de vie est associé à une probabilité 58 % (1-0.42) fois plus faible de répondre entre 7 et 10 à la question sur le sentiment d'intégration par rapport à un individu qui n'est pas pauvre matériellement, toutes choses égales par ailleurs.

TABLE 2.6 – Déterminants du sentiment d'exclusion (avec décile de revenus après prestations sociales)

	(1)	(2)	(3)	(4)	(5)
Âge					
16-30 ans	0.712 (-1.85)	0.924 (-0.31)	0.641* (-2.35)	0.596** (-2.70)	1.001 (0.00)
30-45 ans	0.808 (-1.38)	0.839 (-0.78)	0.743 (-1.92)	0.783 (-1.50)	0.949 (-0.23)
45-60 ans	1.066 (0.54)	1.028 (0.14)	0.968 (-0.27)	0.971 (-0.24)	1.015 (0.08)
Plus de 60 ans	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Sexe					
Femmes	0.773** (-2.87)	0.693*** (-3.94)	0.732*** (-3.41)	0.761** (-3.04)	0.679*** (-4.11)
Hommes	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Décile de revenu après prestations					
Décile 1	6.719*** (7.13)	4.008*** (5.23)	3.202*** (4.25)	4.992*** (5.93)	2.203** (2.86)
Décile 2	3.727*** (4.85)	2.576*** (3.52)	2.153** (2.80)	2.913*** (3.93)	1.662 (1.85)
Décile 3	3.735*** (4.82)	2.660*** (3.58)	2.617*** (3.68)	3.035*** (4.17)	2.011** (2.66)
Décile 4	2.230** (2.92)	1.720* (1.98)	1.662 (1.87)	1.881* (2.31)	1.407 (1.26)
Décile 5	2.094** (2.65)	1.796* (2.11)	1.598 (1.69)	1.929* (2.36)	1.504 (1.48)
Décile 6	1.755 (1.67)	1.575 (1.38)	1.418 (1.10)	1.608 (1.42)	1.354 (0.98)
Décile 7	1.326 (0.87)	1.276 (0.74)	1.210 (0.59)	1.274 (0.74)	1.172 (0.49)
Décile 8	1.090 (0.27)	1.013 (0.04)	1.002 (0.01)	1.116 (0.34)	0.966 (-0.11)
Décile 9	0.846 (-0.48)	0.850 (-0.46)	0.836 (-0.52)	0.886 (-0.34)	0.893 (-0.33)
Décile 10	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)

TABLE 2.6 – Déterminants du sentiment d'exclusion (avec décile de revenus après prestations sociales) (*suite*)

	(1)	(2)	(3)	(4)	(5)
Statut matrimonial					
Famille monoparentale	1.120 (0.61)	0.918 (-0.47)	0.784 (-1.23)	1.107 (0.50)	0.870 (-0.66)
Couple sans enfants	1.099 (0.70)	0.863 (-1.10)	0.980 (-0.15)	1.121 (0.81)	0.831 (-1.30)
Couple avec enfants	1.587** (2.60)	1.195 (1.03)	1.150 (0.81)	1.782** (2.90)	1.249 (1.17)
Autre	1.609 (1.37)	1.083 (0.22)	1.117 (0.30)	1.468 (1.08)	0.997 (-0.01)
Célibataire	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Taille de l'unité urbaine					
Région rurale	1.251 (0.90)	1.249 (0.90)	1.457 (1.52)	1.317 (1.10)	1.461 (1.54)
Ville moyenne	1.345 (1.18)	1.265 (0.92)	1.455 (1.49)	1.327 (1.11)	1.402 (1.33)
Grande ville (sauf Paris)	1.102 (0.40)	1.077 (0.31)	1.239 (0.88)	1.076 (0.30)	1.226 (0.85)
Paris	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Pays de naissance					
DOM-TOM	0.837 (-0.29)	0.857 (-0.24)	0.687 (-0.63)	0.753 (-0.46)	0.695 (-0.59)
UE-15	0.837 (-0.68)	0.881 (-0.49)	0.790 (-0.85)	0.864 (-0.55)	0.851 (-0.59)
Europe de l'Est	4.861* (2.04)	4.484* (2.07)	5.768* (2.27)	4.671* (2.08)	5.346* (2.45)
Maghreb	0.741 (-1.15)	0.607 (-1.86)	0.576* (-1.98)	0.678 (-1.44)	0.508* (-2.35)
Afrique (hors Maghreb)	1.015 (0.04)	0.925 (-0.21)	0.653 (-1.09)	0.970 (-0.08)	0.673 (-1.01)
Autre	1.197 (0.54)	0.949 (-0.15)	1.126 (0.34)	1.079 (0.22)	0.967 (-0.09)
France	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)

TABLE 2.6 – Déterminants du sentiment d'exclusion (avec décile de revenus après prestations sociales) (*suite*)

	(1)	(2)	(3)	(4)	(5)
Statut d'activité					
Etudiants		0.497 (-1.37)			0.454 (-1.54)
Au chômage		4.212*** (8.55)			2.967*** (5.72)
Retraités		1.494 (1.94)			1.510* (1.99)
Inactifs		4.698*** (9.99)			3.877*** (8.70)
En emploi		1 (.)			1 (.)
Statut de pauvreté					
Pauvre en conditions de vie			4.929*** (11.75)		4.110*** (9.92)
Non pauvre en conditions de vie			1 (.)		1 (.)
Transferts					
Allocations familiales				0.656* (-1.99)	0.634* (-2.14)
Allocations logement				1.593*** (3.61)	1.091 (0.64)
Aides sociales				1.642** (2.71)	1.245 (1.21)
Allocations chômage				1.366 (1.71)	1.054 (0.29)
Pas de transferts				1.156 (0.67)	1.177 (0.75)
Observations	13852	13852	13852	13852	13852
Pseudo R^2	0.044	0.082	0.088	0.057	0.119

Exponentiated coefficients; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : La variable dépendante est une indicatrice valant 1 si l'enquêté a répondu entre 0 et 3 à la question sur le sentiment d'intégration, 0 sinon. Les odds-ratios s'interprètent à l'aune d'une sous-catégorie de référence précisée pour chaque variable, sauf dans le cas des variables de transfert, qui sont des variables indicatrices dont la référence est simplement l'absence de transfert. Dans le modèle (3), le fait d'être pauvre en conditions de vie est associé à une probabilité 4.929 fois plus élevée de répondre entre 0 et 3 à la question sur le sentiment d'intégration par rapport à un individu qui n'est pas pauvre matériellement, toutes choses égales par ailleurs.

TABLE 2.7 – Régressions de chaque échelon du sentiment d'exclusion

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Âge											
16-30 ans	0.245*	0.788	1.256	1.121	0.901	0.987	1.090	1.393*	0.885	0.835	0.910
	(-2.23)	(-0.31)	(0.58)	(0.30)	(-0.37)	(-0.07)	(0.52)	(2.39)	(-0.96)	(-0.93)	(-0.53)
30-45 ans	1.045	1.627	0.697	1.005	0.825	0.938	1.148	1.321*	0.993	0.790	0.807
	(0.10)	(0.92)	(-0.93)	(0.02)	(-0.74)	(-0.39)	(0.91)	(2.24)	(-0.06)	(-1.40)	(-1.33)
45-60 ans	1.002	1.777	0.496*	1.387	0.957	1.021	1.178	1.161	0.991	0.799	0.888
	(0.01)	(1.76)	(-2.14)	(1.14)	(-0.21)	(0.14)	(1.24)	(1.35)	(-0.09)	(-1.48)	(-0.85)
Plus de 60 ans	1	1	1	1	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Sexe											
Femmes	0.549**	0.883	0.779	0.694**	0.991	0.952	1.081	1.131**	0.988	0.926	1.020
	(-2.68)	(-0.44)	(-1.42)	(-2.58)	(-0.08)	(-0.78)	(1.27)	(2.66)	(-0.31)	(-1.30)	(0.32)
Hommes	1	1	1	1	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Décile de revenu avant prestations											
Décile 1	3.641	1.421	1.505	1.509	3.074**	1.670*	2.358***	0.949	0.877	0.611**	0.551**
	(1.67)	(0.37)	(0.74)	(1.02)	(3.13)	(2.51)	(4.21)	(-0.37)	(-1.01)	(-2.78)	(-3.07)
Décile 2	3.005	3.819	1.445	1.450	2.902**	1.643**	2.605***	1.209	0.833	0.477***	0.518***
	(1.48)	(1.66)	(0.73)	(1.01)	(3.18)	(2.63)	(5.38)	(1.57)	(-1.70)	(-4.50)	(-3.95)
Décile 3	4.780*	1.728	1.976	1.387	2.077*	1.717**	2.430***	1.098	0.848	0.639**	0.500***
	(2.14)	(0.58)	(1.41)	(0.90)	(2.22)	(2.98)	(5.12)	(0.80)	(-1.61)	(-3.08)	(-4.28)
Décile 4	1.785	2.170	1.528	1.302	2.943***	1.403	2.099***	1.218	0.896	0.620***	0.585***
	(0.75)	(0.94)	(0.88)	(0.73)	(3.41)	(1.88)	(4.29)	(1.76)	(-1.10)	(-3.47)	(-3.44)
Décile 5	2.093	1.020	0.930	1.519	1.992*	1.514*	2.184***	1.221	0.882	0.774	0.502***
	(0.94)	(0.02)	(-0.13)	(1.13)	(2.09)	(2.29)	(4.59)	(1.78)	(-1.27)	(-1.84)	(-4.02)
Décile 6	2.655	1.139	1.285	0.901	2.105*	1.266	1.890***	1.395**	0.944	0.753*	0.450***
	(1.28)	(0.14)	(0.52)	(-0.24)	(2.15)	(1.26)	(3.72)	(2.98)	(-0.60)	(-2.18)	(-4.74)
Décile 7	1.618	1.932	0.435	1.420	2.003*	1.212	1.955***	1.221	1.023	0.671**	0.570***

TABLE 2.7 – Régressions de chaque échelon du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Décile 8	0.326 (-0.92)	2.107 (0.85)	1.065 (0.12)	0.544 (-1.38)	1.585 (1.33)	1.269 (1.24)	1.600** (2.64)	1.224 (1.76)	0.991 (-0.09)	0.846 (-1.27)	0.621** (-3.10)
Décile 9	0.380 (-0.79)	1.404 (0.37)	0.501 (-1.08)	0.478 (-1.57)	1.613 (1.24)	0.873 (-0.62)	1.350 (1.63)	1.001 (0.01)	1.143 (1.33)	0.904 (-0.82)	0.835 (-1.19)
Décile 10	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut matrimonial											
Famille monoparentale	1.004 (0.01)	0.389 (-1.15)	1.554 (1.36)	0.622 (-1.58)	1.416 (1.51)	1.014 (0.10)	0.885 (-0.84)	1.137 (1.19)	1.101 (0.96)	0.868 (-0.90)	0.833 (-1.10)
Couple sans enfants	1.226 (0.73)	0.730 (-0.84)	0.862 (-0.61)	0.692 (-1.85)	1.102 (0.58)	0.959 (-0.46)	1.109 (1.11)	0.948 (-0.75)	0.994 (-0.10)	1.126 (1.26)	1.008 (0.08)
Couple avec enfants	1.343 (0.81)	0.904 (-0.17)	1.501 (1.22)	1.059 (0.21)	1.344 (1.21)	1.072 (0.53)	0.976 (-0.18)	1.001 (0.02)	0.982 (-0.21)	0.984 (-0.12)	0.873 (-0.96)
Autre	1.725 (0.70)	0.539 (-0.57)	0.641 (-0.66)	0.951 (-0.09)	1.543 (1.04)	1.059 (0.28)	1.245 (1.03)	0.680* (-2.05)	1.089 (0.52)	0.884 (-0.45)	1.255 (0.88)
Célibataire	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Taille de l'unité urbaine											
Région rurale	1.402 (0.65)	1.638 (0.82)	2.226 (1.91)	1.202 (0.54)	1.466 (1.55)	1.576** (3.28)	1.048 (0.41)	1.044 (0.49)	0.955 (-0.57)	0.973 (-0.25)	0.582*** (-4.33)
Ville moyenne	1.419 (0.66)	1.043 (0.07)	1.915 (1.54)	1.327 (0.82)	1.526 (1.71)	1.457* (2.57)	1.077 (0.58)	1.003 (0.04)	0.971 (-0.33)	1.092 (0.74)	0.572*** (-4.24)
Grande ville (sauf Paris)	1.063 (0.13)	1.053 (0.08)	3.177** (2.87)	0.737 (-0.93)	1.545 (1.74)	1.271 (1.73)	0.918 (-0.74)	0.905 (-1.13)	1.068 (0.80)	1.251* (2.07)	0.673*** (-3.30)
Paris	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Pays de naissance											

TABLE 2.7 – Régressions de chaque échelon du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
DOM-TOM	1.750 (0.54)	1 (.)	0.617 (-0.48)	0.530 (-0.62)	0.629 (-0.61)	1.028 (0.08)	0.660 (-1.03)	0.948 (-0.20)	0.894 (-0.46)	1.941 (1.69)	1.312 (0.84)
UE-15	0.970 (-0.06)	1 (.)	1.309 (0.68)	0.759 (-0.62)	0.404* (-2.14)	0.740 (-1.66)	0.991 (-0.05)	1.016 (0.11)	0.952 (-0.39)	1.232 (1.15)	1.507* (2.30)
Europe de l'Est	1 (.)	1 (.)	1 (.)	8.871*** (3.33)	4.165 (1.85)	1.255 (0.29)	2.396 (1.67)	1.328 (0.52)	0.371 (-1.52)	1 (.)	0.863 (-0.22)
Maghreb	0.637 (-0.77)	1 (.)	0.473 (-1.53)	0.663 (-1.13)	0.563* (-2.03)	0.522*** (-3.50)	0.822 (-1.08)	1.091 (0.69)	0.876 (-1.19)	1.679*** (3.33)	2.009*** (4.91)
Afrique (hors Maghreb)	0.427 (-0.74)	1.379 (0.41)	0.194 (-1.57)	1.093 (0.18)	0.482 (-1.51)	0.717 (-1.32)	1.059 (0.22)	0.930 (-0.35)	1.047 (0.26)	1.585 (1.77)	1.434 (1.56)
Autre	0.512 (-0.59)	0.707 (-0.38)	0.792 (-0.37)	1.402 (0.84)	0.349 (-1.77)	1.075 (0.33)	0.848 (-0.73)	1.303 (1.53)	0.868 (-0.85)	1.330 (1.18)	0.976 (-0.10)
France	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut d'activité											
Etudiants	4.531 (1.78)	1 (.)	0.0534** (-2.78)	0.623 (-0.66)	1.029 (0.07)	1.176 (0.71)	0.625* (-2.01)	1.068 (0.44)	0.996 (-0.03)	1.133 (0.61)	1.126 (0.59)
Au chômage	3.267** (2.75)	4.315* (2.46)	2.127* (2.15)	3.009*** (4.18)	2.303*** (3.71)	1.728*** (3.74)	1.118 (0.77)	0.819 (-1.69)	0.657*** (-3.50)	0.659* (-2.44)	0.654* (-2.42)
Retraités	1.369 (0.74)	3.481** (2.73)	0.960 (-0.12)	1.745 (1.77)	1.164 (0.68)	1.431* (2.48)	1.067 (0.48)	1.074 (0.64)	0.978 (-0.23)	0.720* (-2.17)	0.779 (-1.77)
Inactifs	5.070*** (4.89)	5.756*** (3.60)	2.984*** (3.50)	2.766*** (4.38)	2.756*** (5.01)	2.141*** (6.27)	0.982 (-0.15)	0.751** (-2.71)	0.614*** (-4.92)	0.556*** (-3.80)	0.712* (-2.28)
En emploi	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut de pauvreté											
Pauvre en conditions de vie	4.627*** (5.95)	4.421*** (3.96)	3.737*** (5.33)	3.226*** (5.37)	2.008*** (3.85)	1.642*** (5.04)	0.847 (-1.50)	0.870 (-1.49)	0.585*** (-5.68)	0.596** (-3.27)	0.763 (-1.77)

TABLE 2.7 – Régressions de chaque échelon du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Non pauvre en conditions de vie	1	1	1	1	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Transferts											
Allocations familiales	0.396*	0.774	0.712	0.629	0.610*	0.998	1.278	1.066	0.994	1.029	0.950
	(-2.10)	(-0.39)	(-0.98)	(-1.48)	(-2.03)	(-0.02)	(1.94)	(0.63)	(-0.06)	(0.20)	(-0.30)
Allocations logement	1.391	0.863	1.084	0.967	1.298	1.125	0.993	0.928	0.909	0.962	1.180
	(1.34)	(-0.36)	(0.37)	(-0.17)	(1.69)	(1.36)	(-0.08)	(-1.11)	(-1.51)	(-0.42)	(1.70)
Aides sociales	1.669	0.453	1.421	1.106	0.999	1.223	1.205	0.945	0.955	0.877	0.881
	(1.41)	(-1.31)	(1.20)	(0.38)	(-0.01)	(1.70)	(1.67)	(-0.65)	(-0.53)	(-1.00)	(-0.88)
Allocations chômage	0.689	0.801	1.370	0.905	1.168	1.031	1.274*	0.941	0.964	1.040	0.908
	(-1.03)	(-0.39)	(1.05)	(-0.37)	(0.71)	(0.26)	(2.22)	(-0.71)	(-0.43)	(0.32)	(-0.71)
Pas de transferts	1.381	0.749	1.865	0.905	1.133	1.151	1.118	0.924	0.936	1.119	0.906
	(0.76)	(-0.44)	(1.80)	(-0.32)	(0.56)	(1.03)	(0.89)	(-0.76)	(-0.66)	(0.77)	(-0.58)
Observations	13832	12451	13832	13852	13852	13852	13852	13852	13852	13832	13852
Pseudo R^2	0.167	0.094	0.116	0.087	0.060	0.032	0.016	0.010	0.013	0.022	0.024

Exponentiated coefficients; t statistics in parentheses* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : Chaque colonne correspond à une régression distincte dont la variable dépendante est une indicatrice de réponse à chacun des seuils de la variable de sentiment d'intégration, de 0 à 10. Les odds-ratios se lisent relativement à une sous-catégorie de référence précisée pour chaque variable, sauf dans le cas des variables de transfert, qui sont des variables indicatrices dont la référence est simplement l'absence de transfert. Dans le premier modèle, le fait d'être pauvre en conditions de vie est associé à une probabilité environ 4,627 fois plus élevée de répondre entre 0 à la question sur le sentiment d'intégration par rapport à un individu qui n'est pas pauvre matériellement, toutes choses égales par ailleurs.

TABLE 2.8 – Rôle du type d'habitat au voisinage du logement parmi les déterminants du sentiment d'exclusion

	(1)	(2)	(3)	(4)	(5)
16-24 ans	0.542 (-1.91)	0.971 (-0.07)	0.465* (-2.35)	0.551 (-1.80)	0.974 (-0.06)
25-34 ans	0.645* (-2.10)	0.826 (-0.69)	0.640* (-2.12)	0.657 (-1.94)	0.930 (-0.26)
35-44 ans	0.604* (-2.46)	0.761 (-1.01)	0.565** (-2.79)	0.663 (-1.93)	0.850 (-0.58)
45-54 ans	1.046 (0.26)	1.237 (0.85)	0.919 (-0.48)	1.039 (0.22)	1.163 (0.59)
55-64 ans	0.859 (-0.96)	0.820 (-1.04)	0.795 (-1.44)	0.794 (-1.38)	0.760 (-1.37)
65-74 ans	0.691* (-2.33)	0.699* (-2.26)	0.681* (-2.41)	0.667* (-2.56)	0.682* (-2.42)
Plus de 74 ans	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Sexe					
Femmes	0.767** (-2.92)	0.733** (-3.27)	0.735*** (-3.33)	0.770** (-2.88)	0.717*** (-3.47)
Hommes	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Décile de revenu avant prestations					
Décile 1	5.789*** (6.36)	3.075*** (3.91)	2.691*** (3.37)	5.147*** (5.40)	1.863 (1.91)
Décile 2	4.088*** (5.09)	2.777*** (3.67)	2.451** (3.21)	3.813*** (4.53)	2.041* (2.41)
Décile 3	3.127*** (3.97)	2.423** (3.10)	2.286** (2.95)	3.030*** (3.82)	2.021* (2.44)
Décile 4	1.996* (2.36)	1.590 (1.59)	1.578 (1.60)	1.974* (2.29)	1.418 (1.21)
Décile 5	1.626 (1.54)	1.397 (1.09)	1.324 (0.91)	1.653 (1.59)	1.301 (0.87)
Décile 6	1.399 (1.16)	1.215 (0.67)	1.179 (0.57)	1.401 (1.16)	1.105 (0.35)
Décile 7	1.282 (0.72)	1.181 (0.48)	1.206 (0.55)	1.304 (0.76)	1.193 (0.50)
Décile 8	0.801	0.763	0.753	0.824	0.754

TABLE 2.8 – Rôle du type d’habitat au voisinage du logement parmi les déterminants du sentiment d’exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
	(-0.68)	(-0.83)	(-0.88)	(-0.60)	(-0.88)
Décile 9	0.421*	0.425*	0.422*	0.436*	0.446*
	(-2.35)	(-2.31)	(-2.37)	(-2.25)	(-2.20)
Décile 10	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Statut matrimonial					
Famille monoparentale	0.821	0.704	0.644*	1.014	0.784
	(-1.04)	(-1.80)	(-2.15)	(0.07)	(-1.13)
Couple sans enfants	1.094	0.887	1.005	1.128	0.891
	(0.64)	(-0.83)	(0.04)	(0.81)	(-0.75)
Couple avec enfants	1.238	0.983	1.005	1.694**	1.240
	(1.28)	(-0.10)	(0.03)	(2.67)	(1.11)
Autre	1.180	0.852	0.919	1.374	0.922
	(0.48)	(-0.44)	(-0.23)	(0.89)	(-0.21)
Célibataire	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Pays de naissance					
DOM-TOM	1.248	1.398	1.034	1.202	1.113
	(0.31)	(0.45)	(0.05)	(0.26)	(0.14)
UE-15	0.836	0.894	0.800	0.862	0.852
	(-0.68)	(-0.44)	(-0.81)	(-0.56)	(-0.59)
Europe de l’Est	4.440*	4.246*	4.968*	4.185*	4.579*
	(1.99)	(2.03)	(2.11)	(2.03)	(2.28)
Maghreb	0.741	0.700	0.635	0.772	0.625
	(-1.03)	(-1.22)	(-1.53)	(-0.89)	(-1.62)
Afrique (hors Maghreb)	0.854	0.863	0.589	0.897	0.644
	(-0.42)	(-0.39)	(-1.37)	(-0.29)	(-1.12)
Autre	1.101	1.030	1.071	1.103	1.019
	(0.26)	(0.08)	(0.18)	(0.27)	(0.05)
France	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Habitat au voisinage du logement					
Dispersé hors agglomération	1.332	1.409*	1.413*	1.496*	1.551*
	(1.66)	(1.98)	(1.99)	(2.24)	(2.42)
Lotissement	1.460*	1.486**	1.511**	1.583**	1.618**

TABLE 2.8 – Rôle du type d'habitat au voisinage du logement parmi les déterminants du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
	(2.48)	(2.59)	(2.71)	(2.96)	(3.09)
Cité	1.511*	1.460	1.462	1.483*	1.473
	(2.13)	(1.94)	(1.90)	(2.04)	(1.94)
Mixte (immeubles et maisons)	1.368	1.427	1.525	1.378	1.539
	(1.34)	(1.52)	(1.81)	(1.40)	(1.81)
Immeuble en ville	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Statut d'activité					
Etudiants		0.566			0.554
		(-1.05)			(-1.08)
Apprentis ou stagiaires		1			1
		(.)			(.)
Au chômage		3.664***			3.127***
		(7.53)			(6.18)
Retraités		1.676*			1.631*
		(2.54)			(2.32)
Inactifs pour cause d'invalidité		7.107***			6.074***
		(9.05)			(8.09)
Autres inactifs		3.263***			2.966***
		(6.34)			(5.85)
En emploi		1			1
		(.)			(.)
Statut de pauvreté					
Pauvre en conditions de vie (indic. français)			4.486***		4.055***
			(10.34)		(9.40)
Allocations logement				1.411*	1.066
				(2.57)	(0.47)
RSA				1.127	0.983
				(0.78)	(-0.10)
Transferts					
Allocations familiales				0.524***	0.546**
				(-3.39)	(-3.19)
Allocations chômage				1.024	0.856
				(0.16)	(-1.01)
Observations	13511	13480	13511	13511	13480

TABLE 2.8 – Rôle du type d’habitat au voisinage du logement parmi les déterminants du sentiment d’exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
Pseudo R^2	0.056	0.087	0.093	0.062	0.122

Exponentiated coefficients; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 2.9 – Rôle du statut d'activité parmi les déterminants du sentiment d'exclusion

	(1)	(2)	(3)	(4)	(5)
16-24 ans	0.530*	0.885	0.459*	0.513*	0.863
	(-2.04)	(-0.30)	(-2.46)	(-2.14)	(-0.37)
25-34 ans	0.629*	0.835	0.626*	0.675	0.948
	(-2.23)	(-0.65)	(-2.23)	(-1.91)	(-0.19)
35-44 ans	0.607*	0.800	0.565**	0.682	0.884
	(-2.47)	(-0.83)	(-2.82)	(-1.87)	(-0.45)
45-54 ans	1.023	1.287	0.902	1.001	1.178
	(0.14)	(1.03)	(-0.60)	(0.01)	(0.65)
55-64 ans	0.878	0.864	0.817	0.828	0.800
	(-0.84)	(-0.79)	(-1.29)	(-1.19)	(-1.16)
65-74 ans	0.703*	0.709*	0.684*	0.694*	0.687*
	(-2.26)	(-2.21)	(-2.41)	(-2.34)	(-2.41)
Plus de 74 ans	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Sexe					
Femmes	0.765**	0.745**	0.734***	0.769**	0.731***
	(-3.01)	(-3.13)	(-3.40)	(-2.95)	(-3.29)
Hommes	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Décile de revenu avant prestations					
Décile 1	5.500***	2.917***	2.510**	4.753***	1.616
	(6.21)	(3.76)	(3.16)	(5.21)	(1.54)
Décile 2	3.678***	2.520***	2.181**	3.545***	1.739*
	(4.68)	(3.30)	(2.79)	(4.47)	(1.96)
Décile 3	2.901***	2.264**	2.096**	2.934***	1.806*
	(3.71)	(2.88)	(2.66)	(3.75)	(2.14)
Décile 4	1.922*	1.559	1.519	1.966*	1.355
	(2.23)	(1.52)	(1.48)	(2.33)	(1.09)
Décile 5	1.544	1.346	1.264	1.572	1.200
	(1.36)	(0.95)	(0.76)	(1.42)	(0.61)
Décile 6	1.264	1.147	1.064	1.307	1.029
	(0.80)	(0.47)	(0.22)	(0.92)	(0.10)
Décile 7	1.176	1.138	1.097	1.223	1.119
	(0.48)	(0.37)	(0.27)	(0.59)	(0.33)
Décile 8	0.751	0.735	0.704	0.777	0.723

TABLE 2.9 – Rôle du statut d'activité parmi les déterminants du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
	(-0.89)	(-0.94)	(-1.10)	(-0.79)	(-1.03)
Décile 9	0.456*	0.478*	0.459*	0.480*	0.507
	(-2.17)	(-2.03)	(-2.18)	(-2.04)	(-1.90)
Décile 10	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Statut matrimonial					
Famille monoparentale	0.856	0.669*	0.676	0.914	0.668*
	(-0.83)	(-2.03)	(-1.95)	(-0.47)	(-1.96)
Couple sans enfants	1.116	0.901	1.020	1.114	0.870
	(0.83)	(-0.75)	(0.15)	(0.80)	(-0.98)
Couple avec enfants	1.268	0.989	1.024	1.539*	1.088
	(1.42)	(-0.06)	(0.15)	(2.27)	(0.47)
Autre	1.238	0.837	0.962	1.304	0.821
	(0.62)	(-0.49)	(-0.10)	(0.78)	(-0.52)
Célibataire	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Taille de l'unité urbaine					
Région rurale	1.480	1.477	1.677*	1.480	1.684*
	(1.54)	(1.50)	(2.04)	(1.55)	(2.02)
Ville moyenne	1.482	1.409	1.596	1.456	1.571
	(1.56)	(1.30)	(1.85)	(1.49)	(1.73)
Grande ville (sauf Paris)	1.193	1.177	1.343	1.154	1.328
	(0.72)	(0.65)	(1.20)	(0.59)	(1.13)
Paris	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)
Pays de naissance					
DOM-TOM	1.313	1.578	1.069	1.200	1.241
	(0.38)	(0.62)	(0.09)	(0.25)	(0.29)
UE-15	0.820	0.865	0.779	0.844	0.828
	(-0.75)	(-0.55)	(-0.90)	(-0.64)	(-0.69)
Europe de l'Est	4.761*	3.979	5.583*	4.698*	4.820*
	(1.97)	(1.91)	(2.17)	(1.99)	(2.29)
Maghreb	0.777	0.721	0.663	0.766	0.635
	(-0.86)	(-1.13)	(-1.37)	(-0.89)	(-1.57)
Afrique (hors Maghreb)	0.969	0.974	0.681	0.990	0.723
	(-0.08)	(-0.07)	(-0.98)	(-0.03)	(-0.83)

TABLE 2.9 – Rôle du statut d'activité parmi les déterminants du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
Autre	1.151 (0.38)	1.010 (0.03)	1.167 (0.40)	1.170 (0.42)	1.079 (0.19)
France	1 (.)	1 (.)	1 (.)	1 (.)	1 (.)
Statut d'activité					
Etudiants		0.702 (-0.64)			0.658 (-0.76)
Apprentis ou stagiaires		1 (.)			1 (.)
CLD avec assurance-chômage		2.576** (2.73)			1.980 (1.94)
CLD sans assurance-chômage		6.730** (2.86)			5.937** (2.99)
CCD avec assurance-chômage		2.573*** (3.39)			2.032* (2.50)
CCD sans assurance-chômage		7.031*** (8.35)			5.786*** (7.34)
Retraités		1.905** (3.05)			1.896** (2.96)
Inactifs pour cause d'invalidité		7.899*** (9.23)			6.516*** (8.06)
Autres inactifs		3.669*** (6.52)			3.363*** (6.19)
Emploi non salarié		1.575 (1.82)			1.689* (2.07)
Employé en CDD		1.169 (0.62)			1.084 (0.32)
Employé en CDI		1 (.)			1 (.)
Statut de pauvreté					
Pauvre en conditions de vie (indic. français)			4.483*** (10.58)		3.955*** (9.64)
Déclare percevoir des transferts					
Allocation logement				1.518* (2.51)	1.151 (0.82)
RSA ou PA				1.064	0.909

TABLE 2.9 – Rôle du statut d'activité parmi les déterminants du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)	(4)	(5)
				(0.36)	(-0.49)
Allocation familiale				0.528***	0.549**
				(-3.35)	(-3.15)
Observations	13852	13821	13852	13852	13821
Pseudo R^2	0.055	0.092	0.091	0.060	0.125

Exponentiated coefficients ; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 2.10 – Rôle de la perception du RSA et des APL parmi les déterminants du sentiment d'exclusion

	(1)	(2)	(3)
	Personnes seules	Familles monoparentales	Couples avec enfants
16-24 ans	1 (.)	1 (.)	1 (.)
25-34 ans	0.745 (-0.28)	1.418 (0.21)	5.399 (1.68)
35-44 ans	0.912 (-0.09)	4.010 (0.86)	0.534 (-0.83)
45-54 ans	1.480 (0.43)	2.446 (0.55)	0.279 (-1.14)
55-64 ans	0.526 (-0.87)	1.846 (0.44)	1 (.)
65-74 ans	0.604 (-1.12)	1 (.)	1 (.)
Plus de 74 ans	1 (.)	1 (.)	1 (.)
Sexe			
Femmes	0.997 (-0.01)	0.430 (-1.26)	1.179 (0.25)
Hommes	1 (.)	1 (.)	1 (.)
Taille de l'unité urbaine			
Région rurale	4.959 (1.82)	6.543* (2.06)	1.076 (0.09)
Ville moyenne	4.714 (1.73)	8.971* (2.37)	4.759 (1.60)
Grande ville (sauf Paris)	2.840 (1.18)	2.597 (1.01)	1 (.)
Paris	1 (.)	1 (.)	1 (.)
Revenu disponible avant transferts	1.000* (-2.04)	1.000 (0.75)	1.000 (0.93)
Statut d'activité			
Etudiants	6.833 (1.54)	1 (.)	1 (.)
Apprentis ou stagiaires	1	1	1

TABLE 2.10 – Rôle de la perception du RSA et des APL parmi les déterminants du sentiment d'exclusion (*suite*)

	(1)	(2)	(3)
	(.)	(.)	(.)
Au chômage	1.854 (1.33)	13.88** (3.07)	0.607 (-0.53)
Retraités	1.654 (0.53)	112.6* (2.52)	1 (.)
Inactifs pour cause d'invalidité	3.487* (2.08)	65.67* (2.55)	57.54* (2.48)
Autres inactifs	0.743 (-0.35)	6.737* (2.06)	1.169 (0.20)
En emploi	1 (.)	1 (.)	1 (.)
Statut de pauvreté			
Pauvre en conditions de vie	2.476** (3.18)	4.300** (2.59)	3.233 (1.47)
Transferts			
RSA	1.102 (0.22)	3.944 (1.66)	5.568 (1.68)
Allocations logement	0.723 (-0.97)	3.095 (1.38)	0.0923* (-2.54)
Allocations chômage	0.575 (-1.37)	0.533 (-1.33)	0.476 (-0.79)
Allocations familiales	2.557 (0.76)	0.829 (-0.40)	0.264 (-1.62)
Observations	588	259	179
Pseudo R^2	0.116	0.283	0.274

Exponentiated coefficients ; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lecture : Chaque colonne présente les résultats de la même régression sur des sous-populations distinctes : la première colonne correspond aux ménages composés d'une personne seule, la seconde aux familles monoparentales et la troisième aux couples avec enfants. La variable dépendante est une indicatrice valant 1 si l'enquêté a répondu entre 0 et 3 à la question sur le sentiment d'intégration, et 0 sinon. Le champ est restreint aux adultes d'au moins 25 ans et appartenant au premier décile de revenu disponible avant prestations.

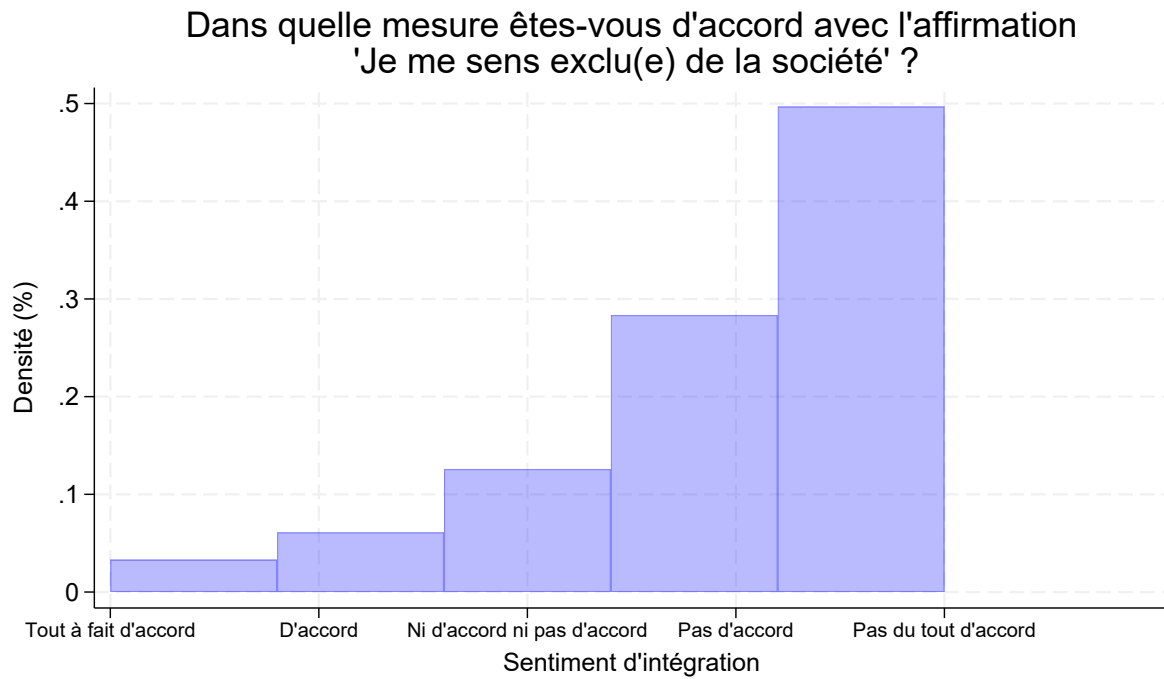


FIGURE 2.3 – Distribution de la variable du sentiment d'intégration en 2022

Source : SRCV 2022

Lecture : En 2022, environ 50 % de l'échantillon total (11 253 sur 22650 personnes) ont répondu « Pas du tout d'accord » à la question.

Chapitre 3

Multidimensional Poverty Measurement in France : New Insights

This article is part of a larger project conducted at the National Institute of Statistics and Economic Studies (Insee) on the measurement of multidimensional poverty. It includes a qualitative component through participatory research on the non-monetary dimensions of poverty, and it is intended to evolve with the quantification of new variables that can be added to the existing indices. I am indebted to Thomas Lellouch, who initiated this project, as well as to Marc Fleurbaey, who both provided me with their support and advice on a regular basis. This project has been funded by Insee and by the Measurement in Economics Chair of PSE. Special thanks to Koen Decancq for sharing code to adapt the social welfare method to this setting and to Benoît Decerf for his invaluable feedback.

Abstract

Many researchers agree that poverty is not solely monetary ; the question remains of how to translate this multidimensionality into poverty indicators useful to public authorities. This study contributes to the literature on the measurement of multidimensional poverty by quantifying the non-monetary dimensions of poverty highlighted by participatory research, particularly social isolation. We show new evidence of a small overlap across these dimensions in France, thereby enhancing the added value of using multidimensional measures as a complement to monetary indices. We then integrate them into an aggregate poverty index by using individuals' preferences identified in survey data to calibrate the relative weights across poverty dimensions. We present the characteristics of individuals identified as poor and we compare them to those identified as poor using a more standard index with equal weights across dimensions. Additionally, we provide new time series of poverty for France in the recent period using different versions of multidimensional indices, and we show that poverty headcount ratios undeniably increased between 2010 and 2019 in France, regardless of the measure considered.

Keywords Multidimensional Poverty Measurement, Well-Being, Preferences.

JEL codes I14, I32, D63, C43.

Résumé

De nombreux chercheurs s'accordent pour dire que la pauvreté n'est pas uniquement monétaire, mais il reste à savoir comment traduire cette multidimensionnalité en des indicateurs de pauvreté utiles aux pouvoirs publics. Cette étude contribue à la littérature sur la mesure de la pauvreté multidimensionnelle en quantifiant les dimensions non monétaires de la pauvreté mises en évidence par la recherche participative, en particulier l'isolement social. Nous montrons que ces dimensions ne se recoupent que partiellement en France, et qu'elles sont donc complémentaires des mesures monétaires. Nous les intégrons ensuite dans un indice de pauvreté agrégé en utilisant les préférences des individus identifiées dans des données d'enquête afin de calibrer les poids relatifs entre les différentes dimensions de la pauvreté. Nous présentons les caractéristiques des individus identifiés comme pauvres selon les différentes méthodes nous fournissons de nouvelles séries temporelles de la pauvreté pour la France sur la période récente. Nous montrons que les ratios de pauvreté ont incontestablement augmenté entre 2010 et 2019 en France, quelle que soit la mesure considérée.

Keywords : Pauvreté Multidimensionnelle, Bien-être, Préférences.

JEL codes : I14, I32, D63, C43.

I Introduction

Poverty is a complex phenomenon to grasp in its entirety. Its measurement represents a central issue as it both shapes the understanding of the phenomenon and constitutes a tool for evaluating public policies aimed at eradicating poverty. Despite most current poverty indices still corresponding to a monetary conception of poverty¹, there is growing consensus that poverty is multidimensional. Amartya Sen paved the way by stating that poverty can be defined as a lack of the basic capabilities that are needed to live a decent life in a society (Sen, 1985, 1992; Nussbaum and Sen, 1993; Sen, 1999). These capabilities reflect a lack of resources or endowments in various aspects of human achievement, including health, education, the environment, and sociability, which all have in common that they cannot be simplified to income².

What is still debated today is the question of how to reflect this multidimensionality in poverty measurement. One option is to complement the usual measure of monetary poverty with other synthetic indicators corresponding to non-monetary dimensions of poverty, and to study the extent to which these measures correlate with each other, and how they delineate several halos of poverty that only partially overlap. For example, Blasco (2023) combines the relative monetary index at 60 % of the median income with the material deprivation index to define a new indicator of severe poverty for France. Each index sheds light on a specific aspect of poverty, which should be specified in light of the objectives we set. Another possibility is to aggregate the relevant poverty dimensions into a multidimensional index. Aggregate poverty indices have become increasingly popular despite their complexity, insofar as they allow to study the joint distribution of disadvantages of multiply deprived individuals or households. They complete unidimensional measures in that they allow to describe multidimensional poverty in space and in time in a consistent way. The question of the parameters to calibrate aggregate indices, i.e., mostly the choice of the poverty dimensions and of the weights to be assigned both within and across dimensions, is however still debated. The weights are central in determining the trade-offs between the dimensions, but also in choosing the candidate dimensions by assigning a positive value to some dimensions and zero to those left out (Decancq and Lugo, 2013). These choices have significant implications for the measurement of poverty : they are "value judgments" (Alkire, 2008) reflecting the importance attributed to one "capability" relative to another. In practice, they mostly remain a responsibility of researchers, who do not always manage to avoid the pitfalls of ethnocentrism — when the observer mistakenly believes in the universality of their own viewpoint — and paternalism — when the decision-maker imposes their own perspective on others for their supposed benefit (Fleurbaey et al., 1998).

A natural solution is to seek the opinions of the people concerned, either directly by asking them to determine the dimensions and their relative importance, or indirectly by inferring their preferences using various methods. Indeed, gathering subjective preferences is an interesting tool to avoid the pitfalls

1. Most international organizations as well as national institutes for statistics either use an absolute measure, e.g., the World Bank's poverty threshold at \$2.15 per day, or a relative measure, such as the threshold at 50% or 60% of the median standard of living. Some countries also use a material deprivation index which identifies households with poor living conditions caused by insufficient financial resources.

2. Endowments can fail to fall into the hands of citizens, and even those that are above the income poverty threshold, for at least two reasons : because some goods are not fully private nor marketable, hence individuals depend on public services provisions ; in the case of private goods, individuals can suffer from rationing when they are not optimally allocated by the private goods market and the labor market, which are not perfectly competitive.

mentioned above while respecting the needs and values of the people concerned. In particular, the method of Decancq et al. (2019a) consists in inferring individual preferences across different goods understood as dimensions of poverty using the life satisfaction question reported in survey data. Another, more direct method consists of directly engaging respondents to leverage their experiences of poverty to assist researchers in identifying what has been referred to as the "hidden dimensions of poverty," as highlighted in the international report published by ATD Fourth World and the University of Oxford (Bray et al., 2019). This report led to a three-year national investigation in France conducted by ATD Fourth World and *Secours catholique-Caritas France*, with the objectives of determining the most relevant dimensions in this country.³ Consecutive to this report, the National Institute of Statistics and Economic Studies (Insee) engaged in the project in 2022 with the aim of confronting its poverty analysis tools and frameworks, notably through household survey variables, with the lived experiences of people in poverty⁴.

Our findings suggest that there is significant added value in measuring non-monetary dimensions of poverty. As demonstrated in the dashboard section of the analysis, the correlation and overlap across dimensional indicators are relatively low. The overlap is most pronounced between monetary poverty, material deprivation, social isolation and low work intensity. In contrast, low health and poor environmental conditions are more evenly distributed across the income distribution. When overlapping these different indicators, a cumulative effect emerges for certain subpopulations, such as women and younger individuals living in middle-sized towns, who often constitute single-parent families. This accumulation of deprivations generally translates into lower life satisfaction and poorer self-assessed health. These dimensional-level findings align with aggregate-level computations, showing that multidimensionally poor individuals defined by either index are less poor in terms of income but more deprived in other aspects and report significantly lower satisfaction. We document the evolution of these indices for the recent period in France, showing that poverty undeniably increased over this period, for both monetary and most non-monetary measures. Some of these changes could, however, reflect structural demographic shifts in the population, such as aging, through deteriorating health, or urbanization, through a more polluted environment. Finally, we show that the incidence and intensity of multidimensional poverty are higher in small towns than in rural areas or big cities.

This study contributes to the literature on multidimensional poverty measurement by relying on individuals' perceptions and values to complement expert-based view that translate into ad hoc decisions regarding the selection of poverty dimensions and of their relative importance. We do this in two different ways. First, we quantify the non-monetary dimensions of poverty deemed essential by individuals with lived experience of poverty, as emphasized in the ATD Fourth World and Caritas report in France, using available variables in the "Statistics on Resources and Living Conditions" (SRCV) survey. Since most dimensions outlined in the report cannot yet be measured, our main contribution is to add and discuss the

3. The report is available on ATD Fourth World's website. Based on people's experiences of poverty, and implementing the "Merging of Knowledge and Practices" methodology, eight dimensions and two cross-cutting experiences were identified : material deprivation and rights deprivation, fears and suffering, deterioration of physical and mental health, social maltreatment, institutional maltreatment, isolation, constraints of time and space, skills acquired and unrecognized by society.

4. The two dimensions of social isolation and institutional mistreatment were particularly addressed. These works led to some changes in the "Administrative Difficulties" module of INSEE's "Statistics on Resources and Living Conditions" (SRCV) survey in 2023.

dimension of social isolation to other commonly measured dimensions, before the rest of the dimensions can be measured in a survey⁵. Second, we construct aggregated indicators of multidimensional poverty using two methods : the counting approach from Alkire and Foster (2011) and the social welfare method from Decancq et al. (2019a), which differ in the way the various weights attributed to dimensions are determined. To our knowledge, this work constitutes the first application of the social welfare method.

In Section II, we revisit the literature on multidimensional poverty measurement in detail. In Section III, we propose a quantification of the non-monetary dimensions of poverty through unidimensional indicators, whose overlap we observe to inform complementary aspects to the monetary view of poverty. We then present the two methodologies for aggregated multidimensional poverty indicators in Section IV before moving on to an application using French data in Section V. Section VI concludes.

II Literature on Multidimensional Poverty Measurement

The rise of research on multidimensional poverty should be placed within the broader framework of the literature focusing on the determinants of well-being and the measurement of development through alternative indicators. Sen and Anand (1994) played a pioneering role in introducing the renowned Human Development Index (HDI) for the United Nations, which is composed of life expectancy, education, and GDP per capita. The Stiglitz-Sen-Fitoussi Commission's report in 2009 also marked a significant step in this direction by recommending to prioritize an approach focused on measuring welfare over purely monetary indicators, particularly with respect to GDP. Consequently, this shift led to the emergence of measures assessing the quality of life as alternatives to GDP. A noteworthy example is the Multidimensional Poverty Index, developed by Alkire and Santos (2008) for the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI). This index takes into account three dimensions : education, health, and standard of living. Moreover, the Organization for Economic Co-operation and Development (OECD) introduced the Better Life Index in 2011, incorporating 11 "essential" dimensions to assess well-being. The adoption of multidimensional poverty indices has greatly enhanced our ability to comprehensively analyze poverty from a systemic perspective. These indices provide the capacity to study the cumulative impact of disadvantages and understand the complex interrelationships among various forms of deprivation.

The primary challenge associated with these indices revolves around the aggregation of dimensions. A well-established body of literature has focused on this matter, commencing with Sen (1979), who conceptualised the identification vs aggregation traditions in the field of poverty measurement. Atkinson (1987) emphasized the various difficulties raised by the measurement of poverty, encompassing the selection of the poverty threshold, the choice of poverty index, and the relationship between poverty and inequality. Fleurbaey (2009) distinguished between synthetic indices, which are constructed based on partial distributions of dimensions, such as the Human Development Index (HDI), and objective indices that mobilize the joint distribution of poverty dimensions. Specifically, the former first aggregate within dimensions

5. The qualitative corollary of this work aims at formulating new variables from the remaining dimensions for which we do not have any variable in usual surveys : fears and suffering, social maltreatment, constraints of time and space, lack of recognition for skills acquired.

and then across dimensions in a second step (for example, in the case of HDI, average income and life expectancy are normalized and then aggregated using identical weights). In contrast, the latter first aggregate across dimensions at the individual-level and then across individuals, calculating the weighted sum of deprivations (as seen in the United Nations' overall multidimensional indicator or the World Bank's indicator).

In the context of multidimensional indices, Alkire and Foster (2011) put forth a methodology for measuring multidimensional poverty, which is derived from FGT indices (Foster et al., 1984). The Multidimensional Poverty Index (MPI) is an application of these measures and can be computed as the product of poverty incidence, representing the proportion of individuals experiencing multidimensional deprivation, and the intensity of multidimensional poverty, denoting the mean proportion of weighted deprivations. In a recent application, Alkire and Apablaza (2016) constructed a MPI using Eurostat-SILC data in Europe, covering six dimensions that group 12 variables, namely income, employment, material deprivation, education, environment and health. This approach involves the calculation of the number of dimensions in which individuals experience deprivation. It considers that all dimensions should be treated the same by assigning them equal weights, hence it is known as the "counting" approach (Atkinson, 2003). However, the determination of relative weights to be assigned both within and across dimensions, remains a responsibility of researchers in this framework. The choice of weights can have significant implications for the measurement of poverty. In essence, these "value judgments" (Alkire, 2008) reflect the importance attributed to one "capability" relative to another.

By contrast, the "social welfare" approach, initially advanced by Atkinson and Bourguignon (1982), aggregates dimensions of deprivation using welfare utility functions that are derived from individuals' preferences. To infer these preferences, two different methodologies can be distinguished. On the one hand, stated-preference methods directly ask respondents about their preferences. An example can be found in Fleurbaey et al. (2013), who solicit respondents to assess changes in their health status using the contingent valuation method to identify a second point on the indifference curve. The problem is that respondents may not have a clear understanding of the options - they are presented with hypothetical choices which may be abstract to them. On the other hand, indirect methods retrieve individuals' preferences in satisfaction regressions. For instance, Decancq et al. (2019a) employ regression analysis of life satisfaction questions against four dimensions of poverty (consumption, health, education, and employment) to ascertain weights at the subgroup level. They represent these preferences through indifference curves, which they subsequently compare to a poverty line vector set at 60% of the median income for each dimension⁶. An individual is considered poor if they fall below the threshold in at least two dimensions. Yet, with indirect methods, biases can arise due to selected samples because of missing values, or due to reverse causality.

However, a recurring criticism of these composite indices is their inherent complexity, which is one of the primary reasons they are not frequently used in practical applications. As pointed out by Alkire (2008), there exists a trade-off between the theoretical relevance and the practical usability of these

6. Determining who qualifies as poor and thus establishing the poverty threshold has received less attention in the literature. Generally, researchers consider this threshold as a minimum level of well-being, often set arbitrarily, as seen in Hagenaaers and van Praag (1985).

indices. While the idea of amalgamating multiple dimensions into a single index may have theoretical appeal, it can pose challenges in terms of practical interpretation and hinder comparisons over time and across different countries. Moreover, critics of multidimensional poverty indices contend that they are akin to "mashup indices" (Ravallion, 2010) because they are often perceived as lacking a sound theoretical foundation or for concealing the temporal sequence of the appearance of poverty symptoms (Lollivier and Verger, 2005).

III Measuring Non-monetary Aspects of Poverty

We select and quantify a range of non-monetary dimensions of poverty emphasized by participatory research using an annual survey. First, we detail the variables used to measure each dimension and we specify the thresholds that can be used to compute average headcount ratios for each dimension, which represent the ratio of individuals deprived in each dimension to the total number of individuals. Then, we compute summary statistics on poverty rates, which we plot over time to illustrate their evolution. We next show the extent of statistical correlations across these poverty indicators and discuss the implications for multidimensional poverty measurement. Finally, we present the characteristics of individuals identified as poor in each dimension and exploit the longitudinal aspect of the survey to examine persistence in poverty based on either measure.

III.1 Choice of variables

We use the "Statistics on Resources and Living Conditions" survey produced annually by Insee to create a dashboard of the previously identified dimensions over the recent period from 2010 to 2019.⁷ This survey is arguably the most comprehensive dataset for this purpose, as it combines administrative data on income with a variety of questions covering many of the aforementioned poverty categories. It is a panel data set corresponding to the French version of the European EU-SILC dataset, featuring more variables and more years of observation for the same individuals (interviews are conducted for up to nine consecutive years). The design of this dataset is rotational, meaning that every year, one-ninth of the dataset is renewed to ensure greater representativeness of yearly samples. The unit of observation is the panel-individual, who is followed over time in potentially different households. The dataset consists of a core set of questions that are asked annually, along with a secondary module whose topic changes each year, with some modules rolling over every 4 or 5 years. We concentrate on the time period spanning from 2010, as this is when most of the qualitative variables useful for non-monetary poverty measurement became available, up until 2019.

Table 3.1 lists the main dimensions of poverty used in this study, as well as the corresponding variables and usual poverty thresholds associated to each. Our choices of poverty dimensions are guided by several criteria : consensus within the literature regarding traditional dimensions of poverty, insights from participatory research, and finally the availability of variables in our data. Indeed, we exclusively

7. The most recent year available is 2022, but we observe several breaks in the series from 2020 onwards for various reasons — fewer questions were asked in 2020 due to the COVID-19 crisis, Eurostat updated some of the variables from 2020, etc. We stop just before 2020 to ensure consistency across poverty measures.

TABLE 3.1 – Detail of the variables used to measure poverty dimensions

Dimension	Variables	Description of the poverty thresholds
Income	Income	The respondent lives in a household whose equivalent disposable income is below 60% of the national median.
Employment	Low work intensity	The respondent lives in a household where the ratio of the total number of months that all household members aged 16-59 have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period is lower than 0.2.
Material deprivation	Severe deprivation	The respondent is deprived of at least 4 of the 9 following achievements : the ability to avoid arrears ; to afford one week of holidays ; a meal with meat, chicken, fish or vegetarian equivalent ; to face unexpected expenses ; and to keep home adequately warm ; owns a car ; a colour TV ; a washing machine ; a telephone.
Education	Education	The respondent has completed primary education.
Health	Subjective health	The respondent assesses their overall health as very poor
	Chronic disease	Existence of a chronic disease.
	Limitations	The respondent is significantly limited in daily activities due to a health issue for at least 6 months.
Environment	Noise	The respondent lives in a household that experiences loud noise from neighbourhood or from the street.
	Pollution	The respondent lives in a household that experiences high pollution, grime or other environmental problems.
	Crime	The respondent lives in a household that experiences high crime, violence or vandalism in the area.
	Housing	The respondent lives in a dwelling with either leaking roof, damp walls, rot in window frames or floor.
Isolation	Lives alone	Single-person household.
	Satisfaction	Satisfaction with family and friends relationships less than or equal to 5/10.
	Social interactions	Cannot afford to host parents or friends for a drink or a meal at least once a month.

Note : Both the layout and wording of this table are largely inspired by Alkire and Apablaza (2016).

include variables that are available annually, meaning those that are extractable from the core dataset. The first three variables we use are classical poverty measures that are harmonized at the European level and constitute the "at risk of poverty or social exclusion" (AROPE) index : the relative monetary measure at 60% of the national median living standard⁸, low work intensity (sometimes referred to as quasi-joblessness), and severe material deprivation.⁹ To these three first dimensions, we add three others that are rather traditional in the literature : education, health, and environment. The measurement of education is determined by the highest degree obtained, on a scale that ranges from 0 ("No diploma") to 10 ("Bachelor, Master or PhD"). In the literature on developed countries, the usual approach is to isolate the fraction of respondents whose highest degree corresponds to a primary school certificate. As is usually done in the literature, we measure health using three subindicators : existence of a chronic di-

8. The living standard corresponds to the disposable income per consumption unit, i.e., the sum of household income after taxes and transfers, divided by the number of consumption units according to the OECD equivalence scale. We replace extreme values of this variable, i.e., those above the 99.5th percentile and below the 0.5th percentile, with missing values.

9. The European social and material deprivation index was updated in 2019 with thirteen elements instead of the nine listed above. Six elements are common across indices, three elements were removed in 2019 (owning a washing machine, a color television, and a telephone) because their high frequency in the population made them irrelevant for defining a state of material deprivation. Additionally, elements related to social life were added.

sease, limitations in daily activities, and self-assessment of one’s health, which consists of a scale ranging from 1 ("Very bad") to 5 ("Very good"). Like Alkire and Apablaza (2016), we also include the environment dimension relative to noise, pollution and crime in the neighbourhood, and insalubrity within the dwelling.

In addition to these traditional measures, we include social isolation, a non-monetary dimension of poverty inspired by participatory research for which we can find relevant variables in our survey.¹⁰ We use three subindicators to quantify social isolation : living alone, ability to afford inviting friends or family over, and satisfaction level regarding relationships with family or friends. Regarding the remaining dimensions mentioned in the report—fears and suffering, social and institutional maltreatment, constraints of time and space, as well as the cross-cutting categories of struggle and dependency—no relevant variables were found in the survey data, thus we are unable to quantify them at present. It is worth noting that certain categories might be better measured in specific years when the secondary module is relevant. For instance, social isolation could be more accurately measured in 2015, thanks to the module on social participation, which notably asks respondents about the frequency of their contacts (both in-person and digitally) with friends and family.

III.2 Summary statistics on poverty rates

TABLE 3.2 – Summary statistics in 2019

	Mean	Std dev.	Min.	Max.	Count	Poverty threshold	Poverty headcount (%)
Equiv. disp. income (euros)	25670.92	12583.33	250	85194	18586	13840.8	11.83
Low work intensity	0.08	0.27	0	1	11224	equal to 1	8.15
Number of deprivations	0.69	1.12	0	7	18813	at least 3/9	8.05
Education	3.72	2.04	1	7	18813	equal to 1/7	14.77
Poor health (binary)	0.26	0.33	0	1	18379	0.34	24.78
Poor health (cont.)	0.59	0.26	0	1	18407	0.42	24.33
Poor environment (binary)	0.14	0.22	0	1	18726	0.34	14.06
Poor environment (cont.)	0.58	0.10	0	1	17689	0.37	3.59
Social isolation (binary)	0.17	0.24	0	1	14813	0.34	7.49
Social isolation (cont.)	0.71	0.14	0	1	18782	0.45	5.64

Lecture : This table presents the mean value, standard deviation, minimum and maximum values, the number of observations, the poverty threshold and the headcount ratio for each poverty dimension among those listed above. The sample is composed of individual respondents aged more than 25. Results are weighted using cross-sectional individual weights for 2019. Equivalised disposable income is in yearly 2019 euros. Low work intensity is a dummy variable indicating whether the household is subject to low work intensity. The number of deprivations theoretically ranges from 0 to 9, according to Eurostat. Education is a scale ranging from 1 (primary school education) to 7 (higher than bachelor degree). Health, environment and sociability are recoded to lie between 0 and 1 via computing the ratio of the value minus the minimum value divided by the difference between minimum and maximum values.

10. We could have proxied the dimension of unrecognized skills using a variable available every year until 2019, which asked respondents whether they could fully utilize their skills in their job. However, we chose to discard this variable because it is asked to employed respondents only, making it overly specific to work and thus unlikely to represent the overall meaning of the dimension. Additionally, this variable has been removed from the core questionnaire since 2019.

Table 3.2 summarizes the mean, standard deviation, range of values, and number of observations for each dimension for the representative year 2019. We also present the values for the poverty threshold and the poverty headcount ratio, meaning the ratio of the number of people who are deprived within a dimension over the total number of respondents. Our sample contains all individual respondents aged above 25 years old. However, for some variables, the sample is more restricted. In particular, the low work intensity measure solely concerns individuals aged less than 60, hence a much lower number of observations. The first four poverty dimensions are synthetic dimensions, meaning we use a single variable to proxy them. This single variable can be continuous, like equivalised disposable income, or a scale, like material deprivation, low work intensity, and education. Equivalised disposable income is expressed in annual 2019 euros, low work intensity is a dummy variable indicating whether the household is subject to low work intensity, material deprivation is measured by the number of deprivations ranging from 0 to 7 (with a theoretical maximum of 9) and education on a scale from 1 ("No diploma") to 7 ("At least a Bachelor's degree"). We use the usual corresponding poverty thresholds described in Table 3.1.

The remaining poverty dimensions—health, environment, and social isolation—are composite indices for which we use several variables that are both objective and subjective, as in Alkire and Apablaza (2016). We aggregate the variables using two methods. The first method computes the weighted sum of these subdimensions using equal weights.¹¹ This involves transforming all poverty dimensions into dichotomous variables to compute the weighted sum. However, binary measures remain highly sensitive to the choice of the threshold used to create dichotomous variables. Additionally, the use of such binary variables leads to a loss of information, as pointed out by Decerf (2023). The author advocates using two different thresholds to distinguish the "extremors"—individuals who are poor because they are severely deprived in a specific dimension—from the "cumulators"—individuals who accumulate more modest deprivations across all dimensions. For this reason, we prefer a second method, which consists of calculating a continuous composite index, as in Decancq et al. (2019a), by regressing subjective assessments of one's situation on relevant objective explanatory variables.¹² This leaves more options for setting poverty thresholds, although the level of these thresholds remains to be discussed. In the case of health, we regress the respondent's subjective health assessment on the presence of a chronic illness, limitations in daily activities due to a health problem, age, and sex. We then use the coefficients from these ordered logistic regressions to predict health, which we scale between 0 and 1. Our measure of sociability is built in a similar fashion, regressing satisfaction with friends and family on family type, employment situation, age, sex, size of the urban area, and the capacity to invite people over. Finally, for the environment dimension, we regress satisfaction with one's housing on the logarithm of the housing surface divided by the square root of household size, dummy variables for the presence of a heating system, hot water, bathroom, washing machine, computer, television, roof leaking, and characteristics related to the environment—noise, pollution, crime—the status of occupation, the size of the urban area, and the year.¹³

We present summary statistics using the two different methods for health, social isolation, and envi-

11. See the description of the counting method in paragraph 4.1 for more details.

12. We detail the regression equation in paragraph 4.2 below.

13. The R^2 of the sociability regression is quite low, about 8%. The respective R^2 values for health and environment regressions are 18% and 23%.

ronment in Table 3.2. The distribution of discrete and continuous versions of these variables appears in Figures 3.7 and 3.8, respectively. For the binary versions of health, environment, and social isolation, we set the poverty threshold at 0.33, following Alkire and Apablaza (2016) and the literature on the counting method. This means that individuals who are deprived in at least one sub-dimension are identified as poor in health or in sociability; for environment, individuals who experience at least two deprivations are labelled as poor. As for the continuous versions of the dimensions, we use the common threshold of 60% of the median value. All these thresholds are arbitrary and do not aim to reflect any concrete reality experienced by respondents. As a result, the magnitude of poverty headcounts is extremely varied, ranging from less than 4% of individuals in the case of environment, when using the continuous measure, to almost a quarter of respondents in the case of health. While the poverty threshold can be more easily adjusted with continuous underlying variables, we have no other solution than to use several thresholds corresponding to the number of deprivations of individuals in the case of discrete variables, as Figures 3.7 and 3.8 show.

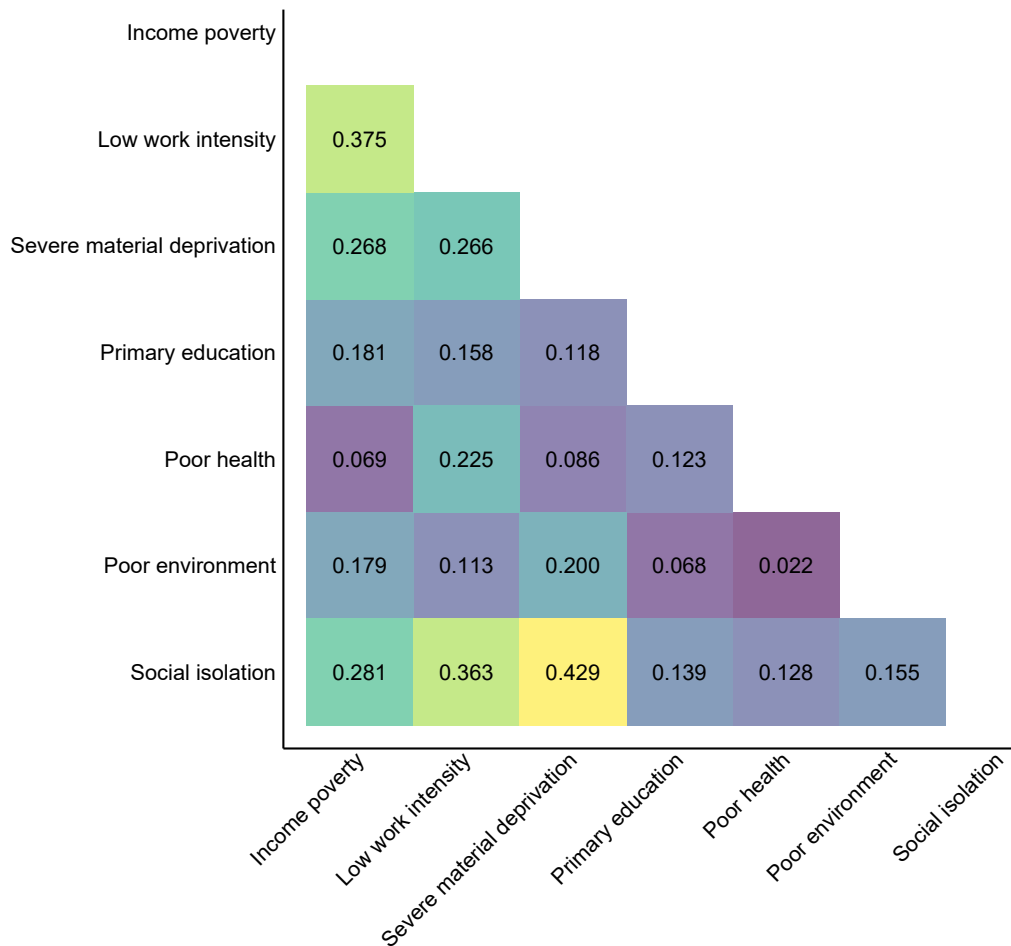


FIGURE 3.1 – Pairwise correlations across unidimensional poverty indicators in 2019

This figure presents the pairwise correlation matrix across all deprivation indices under study. All values are positive by construction because the variables are dichotomous, representing deprivation in each corresponding dimension. All correlations are significant at the 1% level. The color gradient indicates the strength of the correlations : purple reflects the lowest correlations, transitioning through green to blue, and finally to yellow for the highest correlations. The sample consists of individuals aged over 25 in 2019, with all values weighted using cross-sectional weights.

Next, we assess the extent to which these dimensional poverty indices correlate. Figure 3.1 illustrates the pairwise correlations across binary deprivation indicators for each dimension for all respondents in the year 2019. Numbers are weighted using cross-sectional weights, and all pairwise correlations are significant at the 1% level. For health, environment, and social isolation, we use continuous measures with a poverty threshold set at 60% of the median value. Before interpreting the numbers, it is worth keeping in mind that these deprivation indices do not delineate the same fraction of individuals identified as poor, due to the discrete nature of the data. Overall, the prevalence of the purple and blue colors in the figure indicates that the magnitude of correlations is generally quite low. Examining the first column, which represents poverty at 60% of the median living standard, the highest correlation is with low work intensity, which represents unemployment and inactivity at the household-level. Looking at the last line, social isolation is also significantly correlated with material deprivation. Poor health exhibits poor correlation with most other indicators overall, despite a clear link with low work intensity, material deprivation, and social isolation. In general, it can be argued from this correlation matrix that none of the indicators are redundant, and each adds new information to a potential multidimensional aggregate index for future computation. However, concerns may persist that these indicators capture the same underlying dimensions of poverty, potentially leading to "double-counting" the same information upon aggregation. The question of whether double-counting could pose an issue when constructing a multidimensional poverty index remains open to debate. Some may argue that the presence of correlations among various dimensions of well-being within a society reflects a crucial aspect of its overall situation and should thus be incorporated rather than removed from analysis. Klasen (2000) for instance contends that "each achievement is intrinsically and separately valuable regardless of whether it is related to another achievement". In this perspective, addressing the correlation between dimensions could be deemed inappropriate, insofar as correlation across indicators does not mean that each achievement is not valuable in itself.

III.3 Evolution of headcount ratios over time

We plot the evolution of the headcount ratios for each of these dimensions—income, employment, material deprivation, education, environment, health, and social isolation—for all available years in Figures 3.2 and 3.2. In Figure 3.2, subfigure (a) represents the poverty rates for monetary poverty at 60% of the median income and material deprivation, while subfigure (b) shows the shares of respondents experiencing low work intensity or holding a primary school certificate as their highest diploma. In subfigures (c) and (d), we break down the composite dimension of health, and we do the same for environment and social isolation in Figure 3.2. For all composite dimensions, we plot the different variables separately on the left, and on the right, we present the aggregate indices using the two possible methodologies—binary or continuous. However, the numbers in the graphs must be discussed in light of the changes in the average characteristics of the surveyed population to account for potential effects due to changes in population composition from 2010 to 2019. To this aim, the average sociodemographic characteristics of the respondents are recorded by year in Appendix Table 3.7.

Overall, the time series show contrasting trends. On the one hand, monetary poverty appears to increase slightly, as it rises from around 10% in 2010 to 11.5% in 2019. These figures are slightly lower than

the reference poverty rates published by INSEE because of the sample under study, which is composed of individuals aged 25 and over. On the other hand, the share of materially deprived individuals as measured by the European index seems to decrease slightly. This can be explained by the fact that the underlying deprivations are understood as absolute deprivations, the share of which is destined to diminish as society overall progresses. On subfigure (b), the curve associated with the share of individuals who completed primary school at most dramatically increases from 2013, which is likely due to both a break in series¹⁴ and due to the structural ageing of the population observed in Appendix Table 3.7. Indeed, the share of respondents aged between 65 and 74 years old dramatically increases between 2010 and 2019.

The time series for the aggregated health index appears quite flat over the period, with a slight increase starting in 2015, mainly due to the prevalence of chronic illnesses. Again, the aging of the population might be contributing to this increase. The rise in the isolation rate in 2012 for the dichotomous index results from a combination of factors : a dramatic increase in the share of individuals who report that they cannot afford to invite over their relatives, family or friends ; a structural trend toward an increase in the share of single-person households ; and a break in series concerning relational satisfaction.¹⁵ These reasons altogether bring about a sizable increase in the share of isolated respondents in 2013, which jumps from 7% to 10% according to the binary index that uses equal weights for the three variables. By contrast, the continuous measure is less volatile, with the same increase in underlying variables translating to less than 2 percentage points. Finally, the environment index shows a slight increase towards the end of the period. Most of the variables constituting the composite index remain relatively stable over time, except for the share of households suffering from pollution, which rises from 13% to 15% of the population. This likely reflects the fact that the rural population has decreased, while the number of urban inhabitants increased over the period.

III.4 Characteristics of poor respondents

Next, we show the characteristics of people identified as poor in each dimension separately. Table 3.3 presents the results for the representative year 2019 for each dimension, which should be compared with the characteristics of the general 2019 sample shown in the last column of Table 3.7. Again, it is important to note that the number of deprived individuals differs significantly depending on the column considered. Overall, women are over-represented among the deprived in any dimension, especially in terms of material deprivation, social isolation, health, and monetary poverty. Women are indeed more often the head of a single-parent family, which tends to experience an accumulation of deprivations. Looking at family types, it appears that lone parents are over-represented in every deprivation category : they represent 7% of overall respondents but 14% of the monetary poor, 17% of the materially deprived, and 11% of the environmentally deprived. Moreover, the share of older individuals is unsurprisingly higher among

14. The questioning about diplomas was modified between the 2010 and 2011 collections, and a second time between the 2013 and 2014 collections. Until 2010, surveyed individuals were required to list all the diplomas they had obtained. Starting from 2011, the survey only collects information on the highest diploma obtained and the current ongoing education. This modification of the questionnaire led to a significant transformation in the diploma-related questioning. Due to a filtering issue, a little over 500 individuals did not respond to some questions they were supposed to answer.

15. In 2013 and 2018, respondents were asked to rate "Satisfaction with personal relationships (family, friends, colleagues, neighbors, etc.)." In other years, the mean was computed from two separate variables : "Satisfaction with relationships with friends" and "Satisfaction with relationships with family." It could therefore be argued that low relational satisfaction might be slightly higher in 2013 and 2018 due to different wording of the variable.

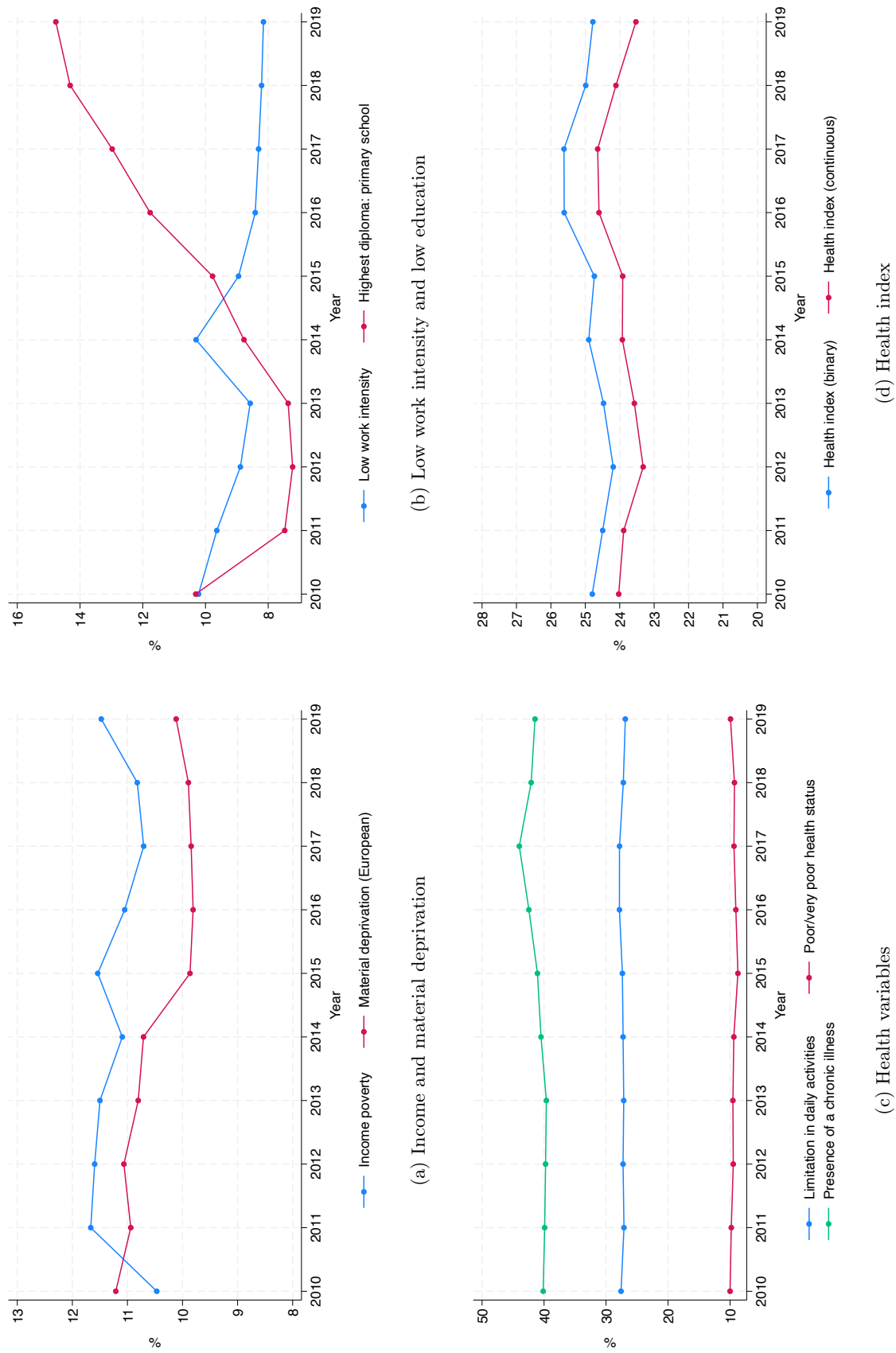
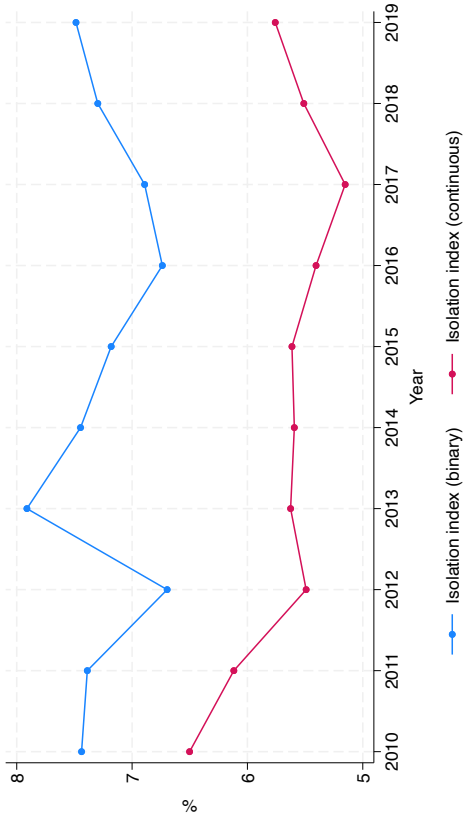
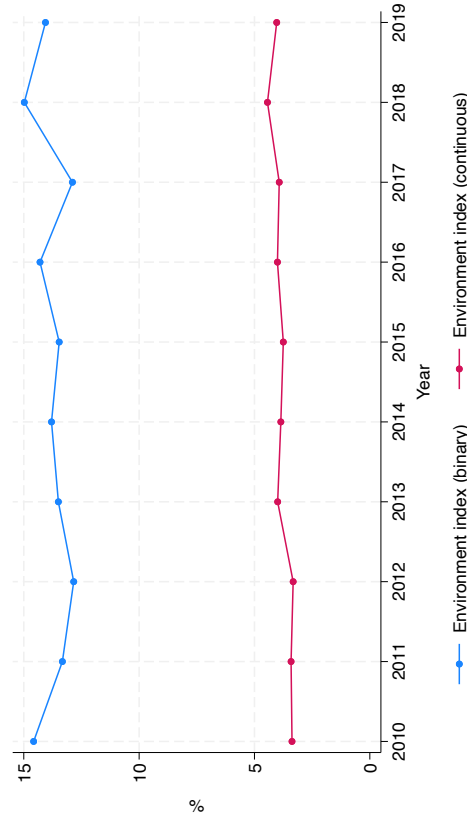


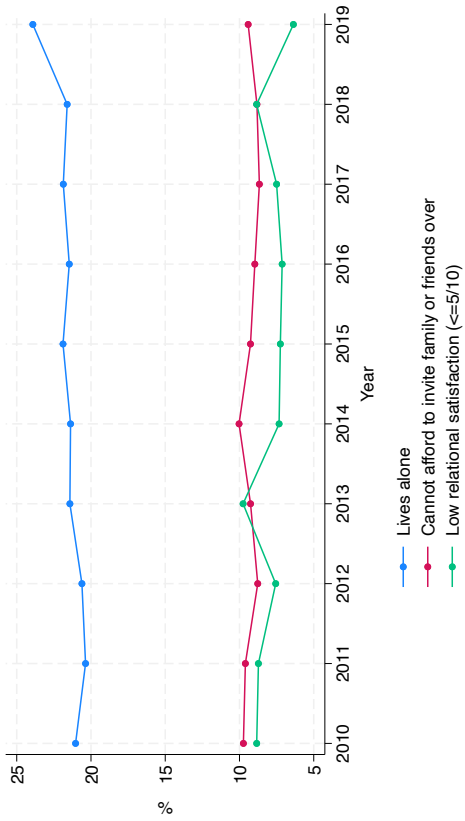
FIGURE 3.2 – Poverty headcount ratios over time in terms of income, material deprivation, work intensity, education, and health



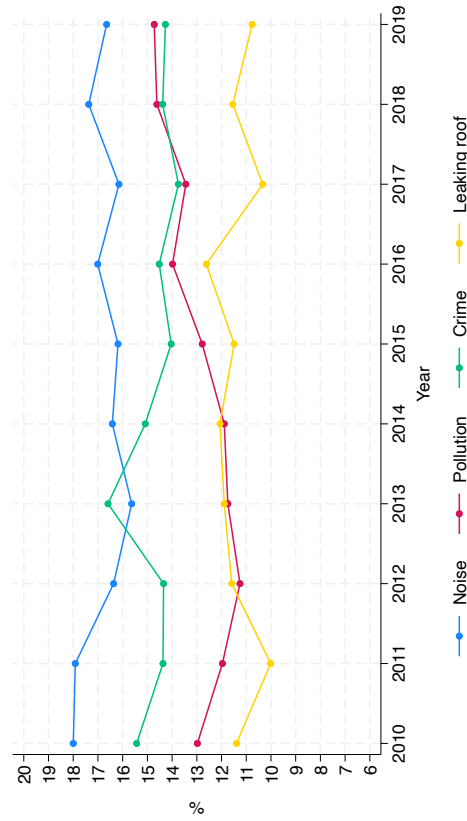
(f) Social isolation index



(h) Environment index



(e) Social isolation variables



(g) Environment variables

FIGURE 3.2 – Poverty headcount ratios over time in terms of environment and social isolation

those with poor health and social isolation due to an age effect, but also with low education due to a generational effect. Among those identified as experiencing low work intensity, younger individuals are more present, especially those without a degree. Living in a rural town is associated with poorer health.

Moving on to post-transfer income deciles, it appears that monetary poverty is closely related to material deprivation and low work intensity, with the first income decile being the most affected. In contrast, environmental deprivation is relatively well-distributed across the income distribution, and even more so for health, likely due to its age component. Social isolation primarily affects the lower income deciles, though less than material deprivation and unemployment. The exact overlap between those below 60% of the median income and other types of deprivations aligns with the results of the correlation table : it is highest with low work intensity and lowest with poor health. Finally, it is interesting to examine the average values for subjective variables reported by those identified as deprived in each poverty dimension. Average life satisfaction is highest among those without any diploma, suggesting that older individuals are happier on average. Material deprivation and social isolation are associated with the lowest average life satisfaction and lower self-assessed health. Apart from the socially isolated, those deprived of employment are less satisfied with social life than others and also report poor health.

Overall, there seems to be a cumulative effect of deprivations, which translates into a greater overlap between monetary poverty, material deprivation, social isolation and low work intensity, which potentially representing the bulk of poverty. The other dimensions stand somewhat apart : low educational background mainly reflects a generational effect, poor health an age effect, but also the remoteness of healthcare services for rural inhabitants who have to face medical deserts. Finally, problems associated with housing and the immediate environment are more prevalent in urban areas and among respondents in the lowest income decile. They affect employed individuals and may be more transient as they are not associated with poorer reported health.

TABLE 3.3 – Profile of respondents in each poverty dimension

	Income poor	Materially deprived	Low work intensity	Low education	Poor health	Poor environment	Socially isolated
Sex (%)							
Men	43.39	40.60	43.51	48.85	43.36	45.43	38.48
Women	56.61	59.40	56.49	51.15	56.64	54.57	61.52
Age (%)							
25-34 y.o.	17.49	17.02	22.50	12.75	6.08	18.36	6.79
35-44 y.o.	18.61	17.32	19.44	12.26	9.98	19.87	8.83
45-54 y.o.	22.11	23.89	28.76	18.48	15.61	22.09	15.93
55-64 y.o.	17.89	17.88	29.30	21.53	19.39	17.82	20.06
65-74 y.o.	11.28	13.76	0.00	14.99	20.37	13.47	19.67
More than 74 y.o.	12.61	10.14	0.00	19.98	28.57	8.39	28.72
Diploma (%)							
3-year degree and +	9.39	5.46	11.80	0.00	10.63	18.63	9.39
2-year degree	6.43	6.61	7.91	0.00	7.74	12.52	6.75

TABLE 3.3 – Profile of respondents in each poverty dimension (continued)

	Income poor	Materially deprived	Low work intensity	Low education	Poor health	Poor environment	Socially isolated
Bachelor degree or eq.	11.81	13.10	12.49	0.00	12.76	17.37	11.33
Vocational certificate	25.08	29.18	29.41	0.00	27.23	22.20	25.79
Middle-school degree	15.02	15.11	8.91	0.00	21.63	11.56	26.17
No diploma	32.27	30.55	29.48	100.00	20.02	17.73	20.57
Activity status (%)							
Employed	36.50	37.41	10.69	38.84	28.32	55.60	26.03
Unemployed	17.31	20.01	41.31	7.72	6.61	9.62	12.27
Students	1.59	0.85	1.67	0.25	0.26	0.70	0.55
Retired	26.81	27.73	7.00	39.93	54.36	26.25	52.12
Inactive	17.79	14.00	39.33	13.25	10.46	7.82	9.04
Size of urban area (%)							
Rural town	30.54	27.93	22.82	32.65	38.43	17.29	27.31
Middle town	20.87	22.94	22.77	22.30	22.73	18.63	23.47
Big city	31.51	27.37	35.51	25.72	27.72	35.65	34.39
Paris and suburbs	17.08	21.75	18.90	19.32	11.11	28.44	14.82
Family type (%)							
Single	33.65	37.30	33.65	22.68	32.57	26.67	85.28
Lone parent	13.87	17.09	20.56	8.16	6.85	11.32	4.51
Couple w/o children	15.75	15.00	19.62	32.58	38.45	24.26	5.54
Couple w children	34.17	28.21	23.48	33.45	20.04	35.43	4.13
Other family type	2.56	2.40	2.68	3.14	2.09	2.32	0.53
Post-transfer decile (%)							
Decile 1	90.27	41.00	52.59	23.16	13.94	17.57	28.61
Decile 2	9.25	25.05	16.68	16.86	15.43	12.51	18.15
Decile 3	0.00	14.13	9.09	13.40	12.71	11.65	16.18
Decile 4	0.00	6.81	6.06	11.12	10.97	9.66	9.53
Decile 5	0.00	4.46	4.38	9.72	9.57	9.01	8.29
Decile 6	0.00	3.92	2.66	6.28	8.11	7.94	6.31
Decile 7	0.00	1.77	2.56	5.71	7.62	8.02	3.93
Decile 8	0.00	1.47	1.81	5.93	6.85	9.54	3.35
Decile 9	0.00	0.84	2.05	3.77	7.06	6.69	2.52
Decile 10	0.00	0.51	1.82	3.60	6.87	6.91	2.56
Transfers (%)							
Housing benefits	51.13	46.39	57.27	23.13	16.60	22.10	28.91
Social benefits	29.04	24.88	30.78	13.09	8.50	13.70	12.53
Family benefits	28.86	24.25	24.74	18.63	10.88	23.38	4.23
Unemployment benefits	11.63	15.10	23.51	7.91	7.12	13.28	9.14
Poverty status (%)							

TABLE 3.3 – Profile of respondents in each poverty dimension (continued)

	Income poor	Materially deprived	Low work intensity	Low education	Poor health	Poor environment	Socially isolated
Below 60% of med. inc.	100.00	45.18	54.31	25.07	15.84	18.57	31.15
Materially deprived	39.82	100.00	42.30	20.92	17.32	21.28	40.06
Health (%)							
Physically limited	36.04	43.26	44.95	34.70	96.92	33.35	48.99
Chronic disease	46.40	53.52	54.64	50.83	98.11	47.51	63.46
Environment (%)							
Noise	24.43	29.34	29.27	19.95	19.14	74.62	22.96
Pollution	17.77	23.17	18.10	15.29	18.47	66.41	18.62
Insecurity	20.37	25.16	20.76	15.65	17.89	60.08	19.81
Leaking roof or moist	21.13	28.02	23.14	13.64	13.90	35.54	20.98
Subjective variables							
Life satisfaction (0–10)	6.39	5.75	6.09	6.83	6.41	6.69	5.77
Social satisfaction (0–10)	7.57	7.23	7.13	7.85	7.67	7.73	6.26
Self-assessed health (1–5)	3.45	3.22	3.27	3.39	2.73	3.52	3.15
Observations	2057	1855	956	2771	4712	2538	1372

Lecture : Each column summarizes the sociodemographic characteristics of individuals deprived in each corresponding dimension. All results represent shares and are read as percentages (except for subjective variables, for which numbers represent averages). Each category sums up to 100%. Numbers are weighted using cross-sectional weights for 2019.

Finally, we complete the picture by exploiting the longitudinal aspect of the dataset to document persistence in each of the poverty dimensions. We define persistence through two aspects : the proportion of time spent in poverty and the longest spell of consecutive periods spent in poverty. We consider all individuals aged more than 25 years old who are observed for at least two years in the dataset and at least once in each corresponding type of poverty, from the year 2010 to 2019. Table 3.4 summarizes the results. With the maximum number of interviews being nine in the SRCV data, the proportion of time spent in poverty reads as a percentage ranging from one-ninth of the time (11.11%) to one hundred percent of the time. The proportion of time spent in low education (primary school certificate) is the highest by definition, since the latent variable (the highest diploma) is unlikely to vary over time. Next comes poor health, which makes sense since chronic disease and limitations are also likely to persist over time. The persistence of material deprivation and income poverty are very close, both in the proportion of time spent and the average value of the longest spell. These numbers are quite high in magnitude, as individuals who are poor one year spent on average nearly 70% of the time in poverty, or almost 4 consecutive years on average. Low work intensity is also high, suggesting that individuals tend to remain inactive, which could also reflect an age effect for retired individuals. Finally, social isolation and poor environment are the least persistent states, meaning individuals are more likely to improve their socialization or living conditions, but still, the numbers are high in magnitude.

TABLE 3.4 – Descriptive Statistics for Poverty Persistence

	Statistics				
	Mean	SD	Min	Max	Count
Proportion of time spent in poverty					
Income poverty	68.94	28.67	11.11	100	18065
Material deprivation	68.82	29.10	11.11	100	17139
Low work intensity	67.92	29.75	11.11	100	9452
Primary education	96.30	15.26	11.11	100	22028
Poor health	73.69	28.01	11.11	100	38409
Social isolation	59.06	28.76	11.11	100	10388
Poor environment	53.76	28.74	11.11	100	5737
Longest spell of consecutive periods in poverty					
Income poverty	3.69	1.82	1	9	18065
Material deprivation	3.62	1.83	1	9	17139
Low work intensity	3.80	1.78	1	9	9452
Primary education	4.82	2.01	1	9	22028
Poor health	4.02	1.92	1	9	38409
Social isolation	3.25	1.59	1	9	10388
Poor environment	3.05	1.51	1	9	5737

Lecture : All numbers are weighted using longitudinal weights. The sample is composed of individuals aged more than 25 who experience at least one year in poverty as defined by the different indicators corresponding to each dimension. The first panel represents the proportion of time spent in poverty as a percentage (up to 100%), while the second one represents the longest spell of consecutive periods in poverty, measured in years (up to a maximum of 9 years of interviews). The minimum value of 11.11% corresponds to one-ninth of the time period.

IV Methodology of Aggregate Indicators

Building aggregate poverty indices involves making various choices, such as determining the list of candidate dimensions to be included, as well as the trade-offs between them. According to Decancq and Lugo (2013), existing methodologies for constructing multidimensional indices can be broken down into three possible approaches. The normative or ad hoc approach involves selecting indicators based on empirical evidence, expert judgment, or a combination of both, without a formal theoretical framework guiding the selection process. The theoretical approach relies on a priori principles, such as the capability approach or other well-being frameworks. The statistical approach employs data-driven techniques to identify indicators. We follow this typology by delving into the methodology of two approaches out of the three that seem most relevant to us : a normative approach, the counting method, defined by Alkire and Foster (2011), and a theoretical method, the social welfare method, established by Decancq et al. (2019a). We dismiss a fully data-driven approach like principal component analysis for the reasons described above, whose results are nevertheless presented in the Appendix for the sake of comparison.

IV.1 The Counting method

Methods for measuring multidimensional poverty based on a counting approach have been used by public policies since the 1970s but gained visibility thanks to the landmark article by Alkire and Foster (2011). This approach has seen numerous empirical applications in recent years. In their article, the authors propose a new class of poverty indices M_α that satisfy several desirable mathematical properties. Their poverty identification strategy involves two steps : the first within each dimension to determine if an individual suffers deprivations in that dimension, and the second across dimensions to identify who is poor by "counting" the number of dimensions in which a person is disadvantaged. Their methodology is flexible, allowing the use of different indices, thresholds, and weights. Unlike the headcount ratio which simply counts the number of individuals below a poverty threshold, the Alkire-Foster (AF) family of measures also incorporates the intensity of poverty through the percentage of weighted indicators for which the average person in poverty is deprived. We elaborate on this methodology with reference to Alkire and Apablaza (2016), whose empirical application focuses on European countries from 2006 to 2012.

Notations¹⁶. The class of poverty indices M_α developed by Alkire and Foster (AF) is based on the Foster Greer Thorbecke (FGT) index. Suppose an economy consists of n individuals whose well-being is measured across a total of d dimensions. Each individual i has a certain level of achievement in dimension j (from 1 to d). For each dimension, there exists a threshold z_j such that an individual is declared poor in that dimension if their level of resources falls below the threshold z_j . A deprivation matrix g^0 summarizes all this information, assigning a value of 1 to each individual if deprived in dimension d and 0 if not. By summing all values for an individual, weighted by the vector w_j , we obtain an individual's weighted sum c_i , defined as the **individual deprivation score**.

¹⁶. We exactly follow the description of the Alkire and Foster methodology as presented in the article by Alkire and Apablaza (2016).

Poverty Identification. An individual is identified as poor if their deprivation score c_i exceeds the poverty threshold k . This corresponds to an intermediate or dual threshold identification method, employing two types of thresholds : the thresholds z_j to determine if a person is deprived in each dimension and the poverty threshold k to identify who is poor in multidimensional terms.

Poverty Measurement. By retaining only individuals identified as poor, we construct a censored deprivation matrix $g^0(k)$ containing only the weighted deprivations of these individuals, while non-poor individuals' achievements are replaced by zeros. This censored matrix forms the basis of the multidimensional poverty measure proposed by Alkire and Foster and its associated partial dimensional indices. The measure M_0 is the average of the matrix multiplied by d , or equivalently, the average of the censored vector of deprivation scores $c_i(k)$. The measure M_0 , or *adjusted poverty rate*, can also be expressed as follows :

$$M_0 = H * A = \mu(g^0(k))$$

Thus, M_0 is the product of the effective poverty rate H (*headcount ratio*) and the average share of deprivations among the poor, A , or alternatively, the average of the censored deprivation matrix $g^0(k)$. H is simply the proportion of individuals who are poor, i.e., q/n where q is the number of poor people. A is the average share of weighted deprivations that poor individuals experience, $A = \sum_{i=1}^n c_i(k)/q$, reflecting the intensity of multidimensional poverty¹⁷.

Weights. By defining a poverty measurement methodology based on deprivation counts and simple averages, the method described above implicitly assigns equal weight $w_j = 1$ to each dimension j , which makes sense when dimensions have been chosen to have relatively equal importance.

IV.2 The Social welfare approach

We follow the methodology proposed by Decancq et al. (2019a), which starts from individual preferences to identify people in poverty. This method represents a shift in perspective from the counting approach, as it adopts a unidimensional view of well-being and poverty, as opposed to dimensions corresponding to attributes from which individuals would be deprived separately. More precisely, this method aims to address the arbitrariness often associated with aggregated indices by allowing individuals to choose how to weight goods (or dimensions) and assess their degree of complementarity or substitutability. Individuals identify themselves as poor by comparing their multi-attribute situation with the poverty threshold vector using their own preferences. Thus, two individuals with the same objective situation are no longer equally poor if they have different preferences. Similarly, an increase of the same nature in one dimension will not have the same impact on individuals if their preferences differ.

Quantitative Approach. We choose to focus on one of the two families of indices proposed in the article, namely the quantitative approach illustrated in Figure 3.3. Let's first consider two dimensions or

17. See the appendix for the generalization of the M_0 measure to the M_α index family.

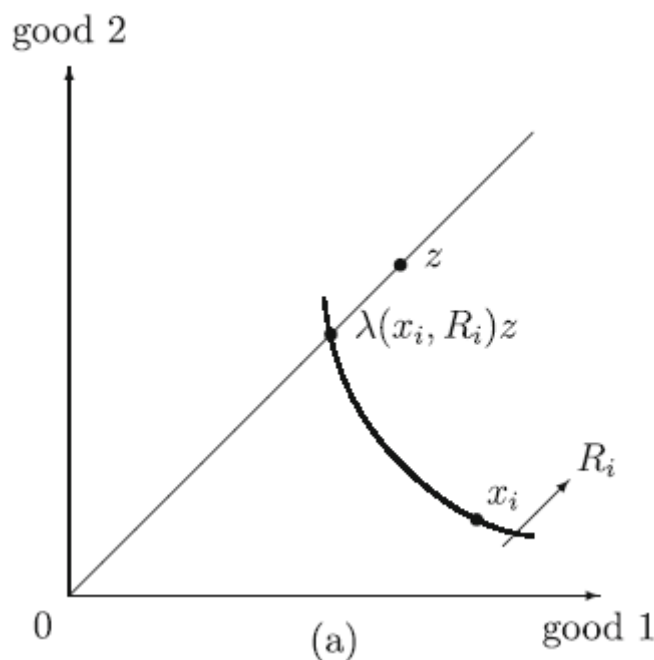


FIGURE 3.3 – Illustration of the quantitative approach with two goods

Lecture : Individual i is indifferent between their current basket of goods x_i and the hypothetical basket λz , which is a fraction of the poverty line z . R_i represents the set of preferences for the two goods, i.e., the curvature of the indifference curve.

goods, 1 and 2. In a sample of N individuals, we consider (x_N, R_N) representing the basket of goods and the set of preferences for two goods of an individual. R_N describes how each of the goods contributes to the well-being of individual i . We seek the poverty index P as a function such that $P(x_N, R_N)$ measures the extent of poverty in (x_N, R_N) . Through this function, it is possible to compare economic situations in which preferences R_i , and not just individual vectors x_i , differ. The central question for identifying who is poor is as follows : which baskets composed of goods 1 and 2 make individual i with preferences R_i poor? We consider that the individual is poor if they consider themselves to be in a less favorable situation than the hypothetical situation defined by a poverty threshold vector z , which depends on their preferences, i.e., is a function $z(R_i)$. This function is defined as follows :

$$P(x_i, R_i) = f(1 - \min \{1, \lambda_z(x_i, R_i)\})$$

In other words, it corresponds to the distance between the poverty threshold z and the hypothetical basket of goods $\lambda_z(x_i, R_i) = \lambda$ proportional to z . The individual is poor if $z - \lambda z > 0$, i.e., if $\lambda < 1$.

Non-standard Goods. The nature of goods matters in determining if an individual is poor. There are two types of goods : standard goods that are continuous, with monotonic preferences, meaning a higher quantity of such goods always brings more well-being. On the other hand, non-standard goods are discrete or subject to satiation, meaning they take values in a bounded domain. In the first case, if all goods are standard, it is possible to combine their quantities convexly on the indifference curve, as illustrated in the example in Figure 3.3. However, if one of the goods is non-standard, it is not possible

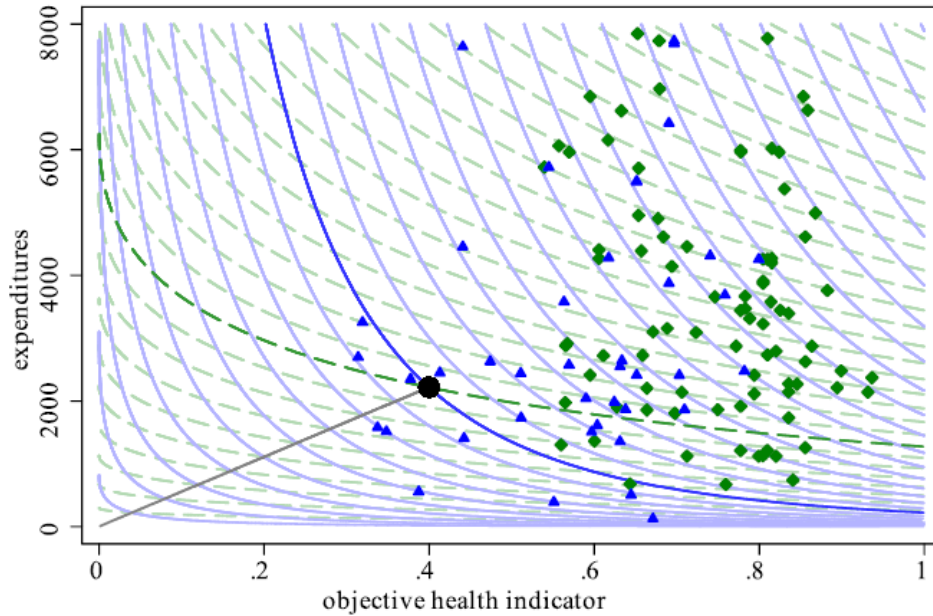


FIGURE 3.4 – Example of an Indifference Map for Two Groups and Two Goods

Lecture : This graph represents an indifference map in the space of expenditure and health goods for two subgroups of the population : young educated women (represented by diamonds) and older less-educated men (triangles in the figure). Older individuals are, on average, in poorer health since their preferences, represented by continuous curves, are generally steeper, indicating a higher willingness to pay for an improvement in health.

to convexly arbitrate between different dimensions. The challenge is then to determine the reference for the non-standard dimension, i.e., the value that the individual prefers (e.g., perfect health or a preferred employment status). As the multidimensional poverty threshold z is defined on the standard good (e.g., 60% of the median value), we measure poverty in reference to the basket λz containing the preferred quantity of the non-standard good to which the individual is indifferent. In other words, non-standard goods are integrated into the calculation of an "equivalent basket" proportional to z , λz , such that the individual is indifferent between their current situation and a hypothetical situation with λz and the preferred value for non-standard goods (e.g., no unemployment for someone who does not want to be unemployed). This allows the integration of the cost, in z -equivalent, of not being at the preferred level for non-standard goods.

Estimation of Preferences. This information can be obtained from panel data : we perform this estimation in the Results section for a representative sample of French individuals from the Statistics on Income and Living Conditions (SRCV) survey from 2010 to 2019. Similar to Decancq et al. (2019a), we identify the preferences of different sociodemographic groups based on life satisfaction S_{it} reported by each respondent i in the survey¹⁸. In their regression model, satisfaction is the dependent variable, and poverty dimensions appear as explanatory variables, but they undergo a Box-Cox transformation, aiming to relax the assumption of perfect substitutability between the continuous dimensions of poverty. Indeed, the potentially non-linear nature of the relationship that links different dimensions due to their non-standard good nature could otherwise affect the validity of regression results. The Box-Cox transformation

18. Specifically, each respondent *interviewed face-to-face* answers the life satisfaction question in SRCV. For respondents whose response sheet was filled out by another household member, proxies, this information is missing.

serves as a tool to make the relationships between variables more flexible¹⁹. Among other regressors, we include a time variable γ_t and sociodemographic characteristics Z_{it} such as education level, marital status, household type, and employment status. To account for the effect of unobservable characteristics on life satisfaction, we also include individual fixed effects α_i in the regression. Finally, we model the heterogeneity of preferences among individual subgroups with interaction effects between the vector X_{it} and a vector of indicator variables D_{it} indicating whether respondents are young (aged under 33), their gender, whether they live in a rural or urban area, whether they have obtained a higher education degree, and whether they are immigrants. Λ represents a matrix whose interaction effects are to be estimated. The final regression is of the form :

$$S_{it}^* = \alpha_i + \gamma_t + (\beta + \Lambda D_{it})' X_{it} + \delta' Z_{it} + v_{it} \quad (3.1)$$

We follow the method proposed in the article, which approximates the above model with a logistic regression with the dependent variable being an indicator indicating whether the respondent is above or below their average life satisfaction across all survey waves.

Identification of Poor Individuals. Figure 3.4 illustrates the poverty threshold vector in the space of the two considered dimensions, income, and health (considered here as a standard good), represented by the black point. Individuals are identified as poor whenever they perceive themselves to be in a less favorable situation than the poverty threshold vector. Once the preferences R_i are known for each respondent (using the life satisfaction method discussed in the previous section or any other method), it is sufficient to check whether they perceive themselves to be in a less favorable situation than the poverty threshold vector or not. In the figure, young educated women (green diamonds) located southeast of the poverty threshold vector between the two highlighted indifference curves consider themselves in a less favorable situation than the poverty threshold vector. However, if they had the steeper indifference curve (solid, as opposed to dashed), they would not consider themselves as poor.

Limitations. The first limitation of this analysis is empirical and concerns the sample, which, once all missing values for each variable in the regression equation are excluded, becomes highly selected and is therefore no longer representative. Additionally, the model relies on theoretical assumptions that need to be explicitly addressed. First, it assumes that responses to the life satisfaction question are consistent with respondents' preferences, which is a particularly challenging assumption to test empirically. Second, it assumes that preferences are separable²⁰ and identical within a sociodemographic subgroup. However, some preferences, such as those related to the intensity of interpersonal relationships, may be linked to personality traits rather than a demographic subgroup. Finally, it is not intended to interpret the coefficients of the model causally, as the distribution of resources in each dimension of poverty cannot be considered exogenous for an individual, even after including sociodemographic controls.

19. The methodology is described more precisely in the Appendix.

20. This assumes that individuals evaluate each dimension independently of the others. In other words, preferences for each specific aspect (such as expenses, health, housing) are not influenced by the levels or outcomes of other aspects. Instead, each dimension is treated separately and does not depend on others in the subjective evaluation of life satisfaction.

V Results on Multidimensional Poverty

We build multidimensional poverty indices using the counting method with equal weights and the social welfare method described above. To this end, we have to restrict our sample to individuals for whom all variables included in the index are non-missing in order to identify the multidimensionally poor. Then, we compare the characteristics of the multidimensionally poor, defined either by the counting method or by the social welfare method.

V.1 Estimation of weights

Before we aggregate poverty dimensions, we must establish a system of weights across dimensions. The counting approach is straightforward in this respect, as it assigns equal weights to all dimensions. The social welfare approach requires an intermediate step, which involves estimating preferences by subgroups of respondents based on higher education, age, sex, urban or rural status, and foreign nationality.²¹ Since education is used to identify preference groups, and we cannot disentangle the two effects, we discard this dimension, similarly to Decancq et al. (2019a). To facilitate interpretation, we also dismiss the material deprivation index because its composite nature, being a sum of deprivations, does not make it a good for which individuals could have preferences relative to another good. We therefore use five dimensions for building our aggregate indices : income, unemployment²², health, environment, and sociability.²³ We restrict our sample to individuals aged 25 to 59 years, since unemployment does not apply to those aged more than 60 years old in the survey. Our final sample is composed of 18,022 respondents aged 25 to 59 for whom we have no missing values for all the poverty dimensions described above, for a total number of observations of 75,843 from 2010 to 2019. For a given year, we lose about 25% of the initial sample due to missing values. This is mostly due to subjective variables regarding satisfaction with relationships and housing being reported only by respondents who are not represented by another individual in the same household. Therefore, we consider the following results mostly indicative, since the sample is no longer representative.

The estimation results for the social welfare method are presented in Table 3.5. Model 1 does not include interaction effects, meaning that all individuals have the same preferences : it thus serves as a reference. Model 2 includes all interaction effects between subgroups and poverty dimensions. The number of observations slightly diminishes as a result of missing values in the variables which determine the interaction effects. Looking at the main regression coefficients, it appears that living standard, health, environment and sociability are significantly and positively associated with greater life satisfaction, while unemployment is negatively correlated with satisfaction. In terms of magnitude, the impact of environment and sociability on satisfaction is quite higher. Coefficients remain quite stable across models, but a few significant interaction effects can be observed. For instance, men seem to care more about being

21. We suggest using social origin rather than higher education as a credible determinant of preferences, following a large sociological literature on the systematic differences of taste depending on both economic and cultural capital. We could proxy social origin through the socio-professional category of the parents ; however, this information is only partially available in the year 2019.

22. We use unemployment at the individual-level rather than low work intensity defined at the household-level.

23. In the article by Decancq et al. (2019a), four dimensions are used : expenditures, health, housing, and unemployment.

TABLE 3.5 – Happiness equation

	(1)		(2)	
	Model 1		Model 2	
Equiv. disp. income	0.495***	(0.0950)	0.724***	(0.135)
Unemployment	-0.361***	(0.0474)	-0.311***	(0.0741)
Health	0.557***	(0.0420)	0.611***	(0.0633)
Environment	1.275***	(0.179)	0.932***	(0.272)
Sociability	2.581***	(0.152)	2.468***	(0.225)
young × health			0.150	(0.124)
young × unemployed			-0.0421	(0.0959)
young × income			-0.322**	(0.124)
young × social			0.450	(0.348)
young × environment			0.728*	(0.330)
male × health			-0.120	(0.0857)
male × unemployed			-0.262**	(0.0925)
male × income			-0.306+	(0.180)
male × social			0.131	(0.308)
male × environment			0.271	(0.348)
rural × unemployed			0.225*	(0.0975)
rural × health			-0.125	(0.0842)
rural × income			-0.154	(0.124)
rural × social			-0.277	(0.304)
rural × environment			0.365	(0.348)
higheduc × income			0.0517	(0.138)
higheduc × unemployed			-0.160	(0.130)
higheduc × health			0.126	(0.121)
higheduc × social			-0.326	(0.429)
higheduc × environment			-0.153	(0.357)
foreign × health			0.0904	(0.201)
foreign × income			-0.177	(0.303)
foreign × unemployed			0.211	(0.176)
foreign × social			1.086+	(0.577)
foreign × environment			-1.393+	(0.716)
controls	Yes		Yes	
Observations	75843		75627	
Pseudo R^2	0.028		0.029	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

employed than women. Young people are more concerned about their living standard than older people, probably because they are more deprived on average. Finally, people living in rural areas care less about their employment status than the rest of people. The pseudo R-squared of the estimation is approximately 3%, which is low, but this is very common within the literature on the determinants of subjective well-being. However, a more general criticism can be made regarding the methodology employed to estimate preferences by subgroups. Indeed, due to the individual fixed-effects specification, we identify preferences from variations in the quantities of the five poverty dimensions at the individual level, which are likely very small due to individuals' trajectories rarely evolving drastically across the distribution in any of the goods. It is thus difficult to infer what happens for larger variations. To verify this assumption, we plot the average variations for the five dimensions of poverty and for the dependent variable in Figure 3.9 in the Appendix. More precisely, we compute the difference between the maximum and minimum values for each variable at the individual level over time, and then we average this difference over the full sample. As can be seen from the histograms, 40% of surveyed individuals report the exact same level of life satisfaction over time and are thus discarded from the analysis. Another 40% of them see their satisfaction change by one or two levels on the scale of 0 to 10 during the duration of their interview. As for the poverty dimensions, more than 50% of respondents' health does not evolve, while 90% of the individuals remain either employed or unemployed. This results in an identification problem because we are looking at effects on only a small part of the population, which is probably very specific, making it difficult to extrapolate to preferences of the general population. Nevertheless, this exercise, despite its inherent limitations, remains informative.

Once preferences are estimated for each subgroup of respondents, we proceed to calculate their total utility, which corresponds to the sum of utilities in each dimension weighted by the coefficients from Table 3.5. We then project this value onto the poverty vector z for each individual, and we compare the obtained λ with the poverty threshold, which is set at 60% of the basket that includes the aggregated median value of non-standard goods, namely sociability, health, and housing. If $\lambda < 1$, the individual is considered poor. Since this measure is continuous, we can also rank individuals by their intensity of poverty and thus consider any alternative threshold.

V.2 Comparisons of the poor

We compare the social welfare measure from Decancq et al. (2019a) with a counting multidimensional poverty index from Alkire and Foster (2011) and the monetary relative measure at 60% of the median income. Regarding the counting index, we select a multidimensional poverty threshold k equal to 0.33, or 33% equivalently, to follow what is usually done in the literature. In this setting with five dimensions, it means that we identify individuals as poor when they are deprived in more than one dimension out of the five.²⁴ This method isolates 13.32% of individuals as poor in 2019. To facilitate a meaningful comparison of the characteristics of the poorest individuals based on different methods, we select the poorest 13.32% using the social welfare method and the unidimensional monetary poverty measure to match the share of individuals who are deemed poor based on the counting method with equal weights. Table 3.6 compiles

24. The full distribution of the deprivation score using equal weights can be found in the Appendix, Figure 3.10.

the characteristics of the first 13.32% of individuals identified as the poorest by any method in 2019. Column (1) displays the mean characteristics of the overall population as a reference, while column (2) corresponds to the social welfare method, column (3) to the counting method with equal weights for each poverty dimension, and column (4) to the unidimensional monetary index.

TABLE 3.6 – Portrait of the poor in 2019

	(1)	(2)	(3)	(4)
	Total sample	Social welfare	Equal weights	Monetary index
Satisfaction	7.40	5.77	5.85	6.46
Living standard (euros)	26135.38	16267.12	14197.20	10961.28
Unemployed (%)	7.96	37.07	39.97	22.94
Health (0–1 scale)	0.67	0.39	0.44	0.62
Environment (0–1 scale)	0.64	0.53	0.52	0.55
Sociability (0–1 scale)	0.76	0.45	0.50	0.61
Male (in %)	42.21	42.76	39.72	37.50
Foreign nationality (in %)	4.74	11.06	12.86	14.56
Rural (in %)	27.34	15.93	18.59	21.22
Higher educated (in %)	21.90	10.16	7.86	9.95
Young (in %)	19.09	10.73	17.12	20.97

Lecture : This table presents the average characteristics of the poorest 13.32% of individuals identified by any of the two multidimensional poverty measures or the unidimensional monetary measure, as well as the average characteristics of the full sample, meaning individuals aged 25 to 59 whose responses are nonmissing in any variable.

A striking result is that the characteristics of the multidimensionally deprived differ significantly from those considered solely through the lens of living standards. Indeed, the two multidimensional approaches identify a higher fraction of unemployed individuals with poorer health, lower sociability, and lower satisfaction. These individuals are younger, more urban, and more male on average compared to the monetarily poor. Sociability, however, tends to be even lower among the poor identified by the social welfare method, which implicitly places a higher weight on this dimension due to its stronger correlation with life satisfaction. The social welfare method also selects the highest share of young urban male individuals with higher living standards, while the counting method with equal weights is more intermediate on average, except that it yields the highest share of unemployed and lower-educated individuals. The monetarily poor are more often female, older, and of foreign nationality. Figure 3.5 visualizes the extent of overlap between these different subsamples. Unlike Decancq et al. (2019a), a sizable share of the poor is identified by all three methods simultaneously—5.5% out of the 13.32%—but there are noticeable differences. Specifically, the counting method and the social welfare method are closer to each other than to the monetary method, as they identify a 9.9% share of respondents in common.

Finally, to understand the evolution of the share of multidimensionally poor individuals over time, we plot the trends for all poverty indices in Figure 3.6. As before, we adjust the headcount ratios for the social

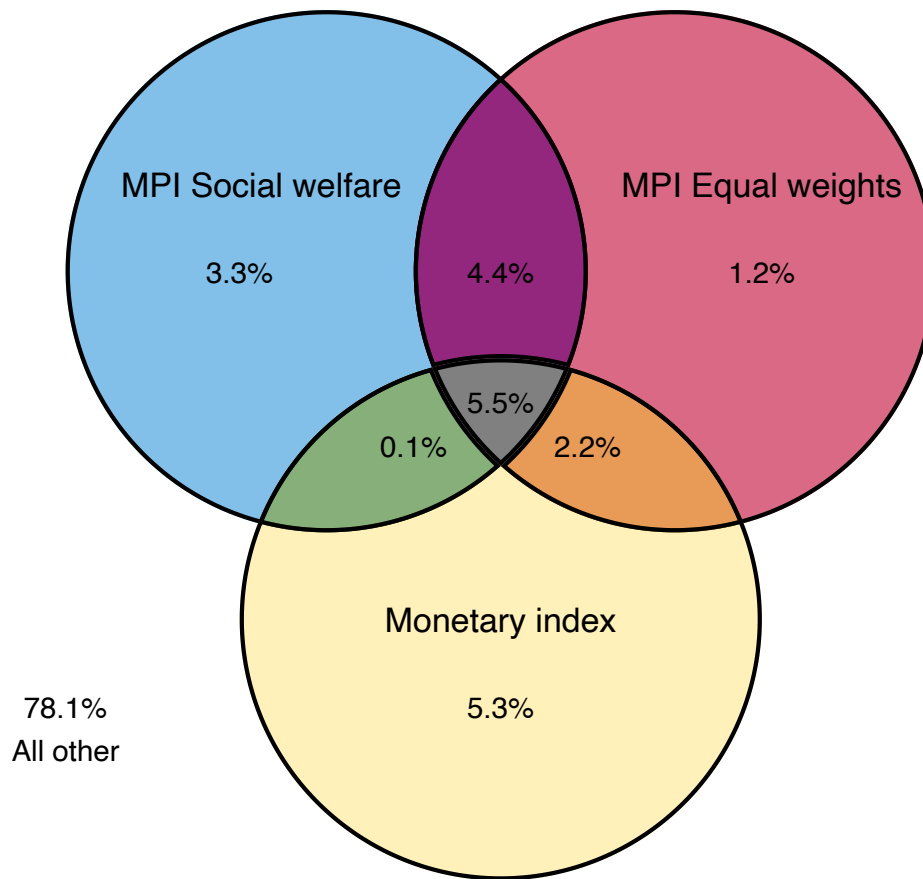


FIGURE 3.5 – Overlap Between Poverty Indicators in 2019

Lecture : The figure represents a 3-variable Venn diagram. All three circles represent 13.32% of the population each and partly overlap, such that they isolate around 5.5% of the poor in common. 21.9% of respondents are included in the three measures.

welfare and monetary measures to align with the headcount ratio determined by the counting method in 2019, as this measure is discrete and serves as a benchmark. We anchor all measures relative to 2019 to better highlight trends in multidimensional or monetary poverty. All poverty headcount rates increase over time, starting from 11% of the population for income poverty and multidimensional poverty using preference identification, and from 12% for the counting method. Due to methodological differences, the trends vary significantly over time. The equal weights methodology for multidimensional poverty measurement shows lower variation, with an increase occurring before 2014, followed by a period of stagnation. The trend associated with the social welfare method is continuously increasing, with a sharp rise in 2012-2013 reflecting the discontinuity in the sociability variable discussed in Section III, which

is also evident in the equal weights method. In contrast, the monetary index shows a steeper increase between 2010 and 2012, followed by a slower rate of increase or stagnation thereafter.

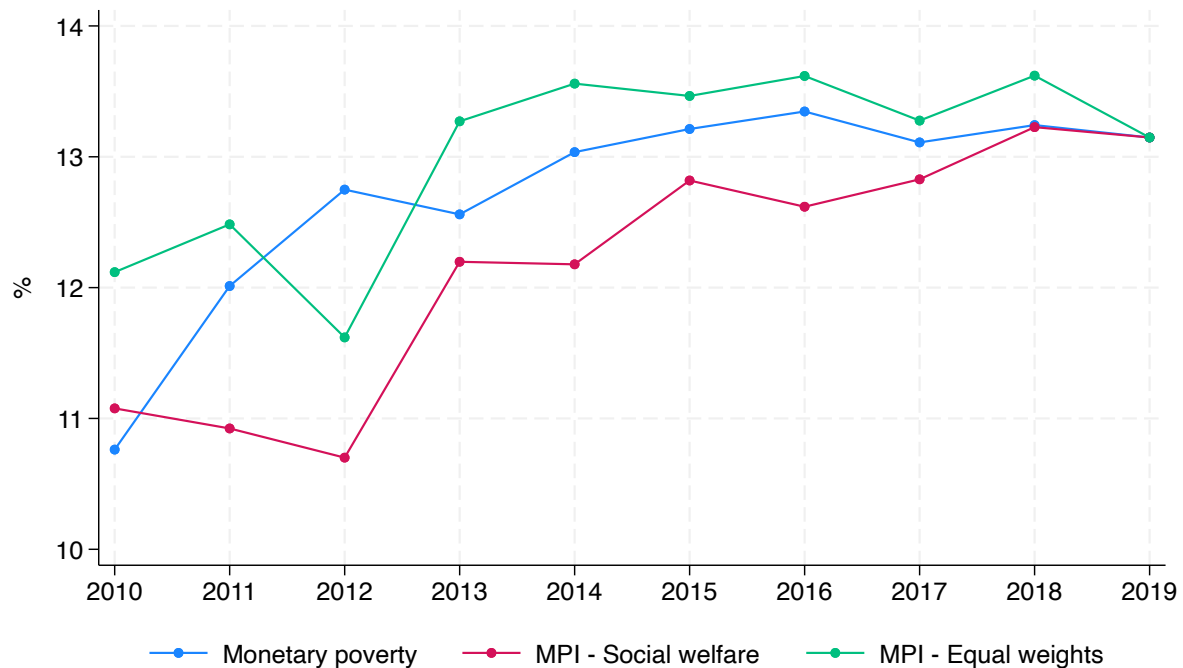


FIGURE 3.6 – Trends in poverty indices

Lecture : We represent the headcount ratios of three different poverty measures : the social welfare measure, the counting measure with equal weighs and the unidimensional monetary poverty index at 60% of the median income. We anchor the monetary poverty and the social welfare measures to the 2019 headcount ratio of the counting index to better emphasize the trends.

V.3 Extensions

Dimensional breakdown of M_0 . To determine which dimensional variables contribute the most to multidimensional poverty, we use the properties of the M_0 index, defined by the product of the incidence and the intensity of poverty, by breaking down and calculating the percentage contribution of each to multidimensional poverty M_0 . This analysis is straightforward for the counting method. However, for the social weights method, we first need to estimate the implicit weighting system corresponding to the average preferences of all individuals. This involves using the coefficients in Table 3.5, column (1). In other words, we calibrate a counting index using a new weighting scheme that we term "social weights." This scheme assigns significantly higher weights to sociability and, to a lesser extent, to the environment, as these dimensions are more strongly associated with variations in individuals' reported life satisfaction. Appendix Figure 3.11 shows the average percentage contribution of each dimension to M_0 , the Alkire and Foster multidimensional poverty index, depending on the weighting scheme used, for all years. In the equal weights index, income is the primary driver of both the incidence and intensity of poverty. In the index calibrated with social weights, the decline in sociability accounts for half of the incidence and intensity of multidimensional poverty observed. Yet, these bar charts reflect an arbitrary choice regarding the poverty threshold, which is set at 0.33 of the index. It is necessary to widen the options and compare

how the level of poverty evolves depending on the multidimensional poverty threshold. In Appendix Figure 3.12, we plot the value for the MPI depending on different multidimensional poverty thresholds k . Interestingly, M_0 with social weights is higher than M_0 using equal weights for all thresholds greater than 0.20, namely when we consider individuals with more than one deprivation. For individuals who have only one deprivation, M_0 with equal weights is higher, indicating that the rankings are not robust to changes in the indicators' weights for all k . We further investigate the results for the counting index with equal weights by examining how the deprivations contribute to poverty at the subnational level. We split the measure according to population density : distinguishing between rural areas (defined as units with fewer than 10,000 inhabitants), towns of 10,000 to 100,000 inhabitants, cities other than Paris, and the Parisian agglomeration. As can be seen from Appendix Figure 3.14, there exists a clear and robust ranking depending on where the respondents live : multidimensional poverty measured by M_0 is highest in towns, followed by larger cities, the Parisian agglomeration, and is lowest in rural areas. Figure 3.13 depicts which dimensions play a role in studying multidimensional poverty at the sub-national level. In particular, it appears that social isolation and the low quality of the immediate environment play a disproportionate role, both in terms of the incidence and intensity of poverty.

Statistical weights. We compare our results with those derived from statistical methods. First, we conduct a principal component analysis on our data. In general, this statistical technique is used to simplify and identify patterns in data by reducing its dimensionality. The main idea is to transform the original variables into a new set of orthogonal variables called principal components. These principal components are linear combinations of the original variables and are ordered in such a way that the first principal component explains the maximum variance in the data, the second principal component explains the maximum variance that is orthogonal to the first, and so on. When applied to multidimensional poverty measurement, this method is used to determine the weights to be assigned to all candidate dimensions of poverty. These weights can be obtained from the linear combination that explains the largest proportion of the variance, or by using a weighted average of all the linear combinations. For instance, Klasen (2000) creates a composite measure of deprivation from the first principal component among fourteen different determinants of poverty, which represents a background variable that is contained in all the components and accounts for the largest share of variation. Then, the set of weights is derived from the magnitude of the correlation between this deprivation measure and the other candidate dimensions. We present the results in Appendix Tables 3.8 and 3.9, where income, material deprivation and social isolation are given the highest weights. However, this approach has been criticized by the literature : Klasen (2000) acknowledges himself that "it implicitly assumes that only components with strong correlations with each other are relevant for the deprivation measure, which may be debatable in some cases." Pogge and Wisor (2016) indeed point out that freedom from violence, a variable that might be crucial in assessing poverty, is discarded from Klasen's analysis because it is not correlated with the deprivation index. According to the authors, "the fact that violence affects all socioeconomic groups is no reason to reduce its weight." Decancq and Lugo (2013) add that data-driven approaches tend to remove some

"non-redundant" information by assigning low weights to poorly correlated subset of variables.²⁵ They take up Somarriba and Pena (2009)'s argument that correlations do not necessarily represent the real influence of indicators on poverty, and that the multidimensional approach is precisely used because important dimensions of well-being are not strongly related. Thus, it is often argued that the method generates results that are difficult to interpret, lacking transparency and comparability.²⁶

VI Conclusion

Our study contributes to the literature by indirectly relying on subjective preferences and the personal experiences of people living in poverty to measure multidimensional poverty. We do so in two respects. On the one hand, we draw on participatory research conducted by the University of Oxford and the associations ATD Fourth World and Secours Catholique in France to select non-monetary dimensions of poverty to be quantified and included in the calculation of a multidimensional poverty index. Until now, dimensions and the weights assigned to them were either ad hoc selections by researchers or empirically determined through statistical methods. On the other hand, we propose the first application of the social welfare method to estimate weights based on the identification of preferences. This method complements the counting method, which is purely normative, by being data-driven. The weights derived using this method, based on the life satisfaction question, are intended to reflect individuals' priorities and values.

Our results overall suggest significant added value in measuring non-monetary dimensions of poverty by using alternative indicators to the relative monetary index set at 60% of the median income. Indeed, as shown in the dashboard section of the analysis, the degree of correlation and overlap across synthetic indicators is relatively low. Individuals living below the 60% poverty line of median income are not the same as those identified as multidimensionally poor, despite some partial overlap. This overlap is greatest between monetary poverty, material deprivation, social isolation, and low work intensity, which together potentially represent the bulk of poverty. In contrast, low health and poor environmental conditions are more evenly distributed along the income spectrum. By overlapping these different indices, a cumulative effect appears for certain subpopulations, such as women, younger individuals living in middle-sized towns, who often constitute single-parent families. The results also highlight the role of unemployment and inactivity as worsening factors, as well as the persistence of poverty in any dimension. The cumulation of deprivations generally translates into lower life satisfaction and poorer self-assessed health. These findings at the dimensional-level align with aggregate-level computations, as we observe that multidimensionally poor individuals defined by either index are less poor in terms of income but more deprived in other aspects and report significantly lower satisfaction. In this respect, our result indicating a high degree of overlap between the two proposed multidimensional poverty indicators suggests that either index could

25. We check this assumptions by assigning weights based on the amount of information each variable contributes to the multidimensional index following Anderson (2008). We compute the inverse covariance matrix of all five dimensions and allocate the weights based on the strength of their relationship with the rest of the variables. In our sample, instead of assigning a weight of one-fifth to each dimension as in the counting method, the weights computed using this method are very similar for living standards, health, housing, and sociability (ranging from 0.16 to 0.19) and approximately twice as high for unemployment (around 0.33), given its weaker relationship with the other dimensions.

26. In addition to these remarks, a recent paper by Dutta et al. (2021) showed that data-driven approaches to set weights combined with counting approach are endogenous and may violate some of the key properties such as monotonicity and subgroup consistency.

be used equivalently.

There remains a number of questions to be answered if we want to agree on which indicators of non-monetary poverty to include. We believe that all approaches have their advantages and disadvantages and that they complement each other. It seems essential to create a dashboard of non-monetary indicators to highlight the various types of deprivations, but summarizing the abundant information from the multitude of indicators and their intersections is a challenge. Aggregated indices have the advantage of conciseness and highlight the accumulation of difficulties, which can be very informative when focusing on the types of households and geographic areas most affected. Regarding the poverty threshold to use, choices vary depending on whether the measurement is dichotomous or continuous. In the case of a dichotomous measurement, it might be advisable to use several thresholds to distinguish between severe and more moderate deprivation within a dimension. However, we are somewhat constrained by the formulation of questions in survey data and the different available values, which often prevent the measurement of continuous indices. For continuous variables, the choice of a relative threshold should be carefully discussed, as results are highly sensitive to these thresholds.

Finally, the choice of the aggregate multidimensional poverty index must be considered in light of several criteria. Simple and transparent measures are likely preferable for public opinion and debate, and the counting approach, which assigns equal weights to dimensions, is most suitable for this purpose. The social welfare approach is more democratic, as it aims to derive a weight system based on the preferences of the individuals concerned. However, it assumes that responses to the life satisfaction question align with respondents' preferences, which is difficult to test empirically. A middle ground between the two indices could be considered by complementing the counting method with additional methodological features²⁷, or by calibrating the thresholds of the counting method with a set of weights for the entire population, assuming that this represents national preferences. Indeed, using different weights for individuals could raise ethical and social justice concerns. In any case, we believe that participatory research is a promising avenue for future work, as the connection between researchers and individuals with lived experiences of poverty is extremely insightful and helps construct indices and measures that are more meaningful. One qualitative extension of this work is to formulate new questions to integrate into survey data, in collaboration with concerned individuals and associations, to better measure non-monetary dimensions of poverty.

27. Pattanaik and Xu (2018) suggest a variant of the counting model : a method in which the identification of the poor is based on the weighted sum of gaps in each dimension, rather than the sum of dichotomous deprivations.

Appendix

TABLE 3.7 – Characteristics of respondents by year of interview

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sex										
Men	47.37	47.36	47.42	47.49	47.43	47.46	47.50	47.65	47.46	47.18
Women	52.63	52.64	52.58	52.51	52.57	52.54	52.50	52.35	52.54	52.82
Age										
25-34 y.o.	18.23	17.47	17.65	17.57	16.43	17.30	16.50	16.76	16.59	15.81
35-44 y.o.	19.40	19.60	19.34	18.81	19.41	18.74	18.76	18.27	17.85	17.82
45-54 y.o.	18.85	18.88	18.50	18.76	18.71	18.03	18.30	18.28	18.33	18.39
55-64 y.o.	19.25	19.56	19.27	19.21	19.14	19.30	19.16	19.30	18.98	18.97
65-74 y.o.	11.57	11.83	12.36	12.77	13.38	13.66	14.49	14.58	15.39	16.11
More than 74 y.o.	12.70	12.66	12.88	12.88	12.92	12.98	12.79	12.82	12.86	12.89
Diploma										
3-year degree and +	15.37	16.02	17.10	17.72	18.44	19.06	19.57	19.24	19.17	20.00
2-year degree	10.83	10.99	11.46	11.68	11.65	11.90	12.22	12.33	12.20	11.97
Bachelor degree or eq.	14.80	15.11	15.22	15.82	15.61	15.89	16.13	16.17	16.08	16.11
Vocational certificate	25.21	28.28	28.09	27.80	29.26	28.46	25.14	24.55	24.58	24.01
Middle-school degree	23.48	22.12	20.91	19.61	16.27	14.91	15.17	14.73	13.65	13.13
No diploma	10.31	7.47	7.22	7.36	8.77	9.77	11.77	12.97	14.32	14.77
Size of urban area										
Rural town	38.36	38.54	38.28	35.35	35.73	35.63	35.47	36.00	35.15	35.09
Middle town	18.32	18.59	17.57	17.92	18.10	19.40	19.33	18.93	19.50	19.75
Big city	27.73	27.78	28.44	30.18	29.82	28.80	29.35	29.76	29.22	29.16
Paris and suburbs	15.47	15.02	15.63	14.26	13.82	16.17	15.85	15.31	16.13	16.00
Activity status										
Employed	52.53	53.68	53.92	53.50	53.32	53.23	53.60	53.33	53.69	52.92
Unemployed	6.23	5.73	5.72	6.27	6.19	6.49	6.23	6.45	5.70	5.82
Students	0.78	0.54	0.64	0.71	0.64	0.52	0.61	0.61	0.64	0.73
Retired	32.27	32.65	32.85	32.44	32.46	33.05	33.65	33.76	34.10	34.86
Inactive	8.20	7.39	6.87	7.08	7.40	6.72	5.91	5.85	5.87	5.68
Family type										
Single	21.04	20.37	20.61	21.42	21.37	21.89	21.46	21.87	21.61	23.92
Lone parent	6.08	6.32	6.33	6.26	6.56	6.47	6.74	6.82	6.68	6.99
Couple w/o children	32.82	33.66	33.60	32.77	33.27	32.71	32.45	32.78	32.97	32.81
Couple w children	35.69	36.23	35.94	35.80	36.09	35.57	35.49	35.40	35.27	34.57
Other family type	4.38	3.43	3.53	3.75	2.69	3.36	3.86	3.14	3.47	1.71
Poverty status										
Poor at 60% of median income	10.47	11.67	11.60	11.50	11.09	11.54	11.05	10.71	10.82	11.48
Poor in living conditions	11.71	11.13	10.45	11.45	11.15	10.32	10.74	9.91	10.57	10.07
Materially deprived	11.21	10.94	11.06	10.80	10.71	9.86	9.81	9.84	9.89	10.12
Observations	18200	18679	19807	18354	18740	18740	18736	17998	17589	18813

Lecture : All respondents aged at least 25 each year. Percentages sum to one within each subcategory, except the last one, poverty. Individual cross-sectional weights by year.

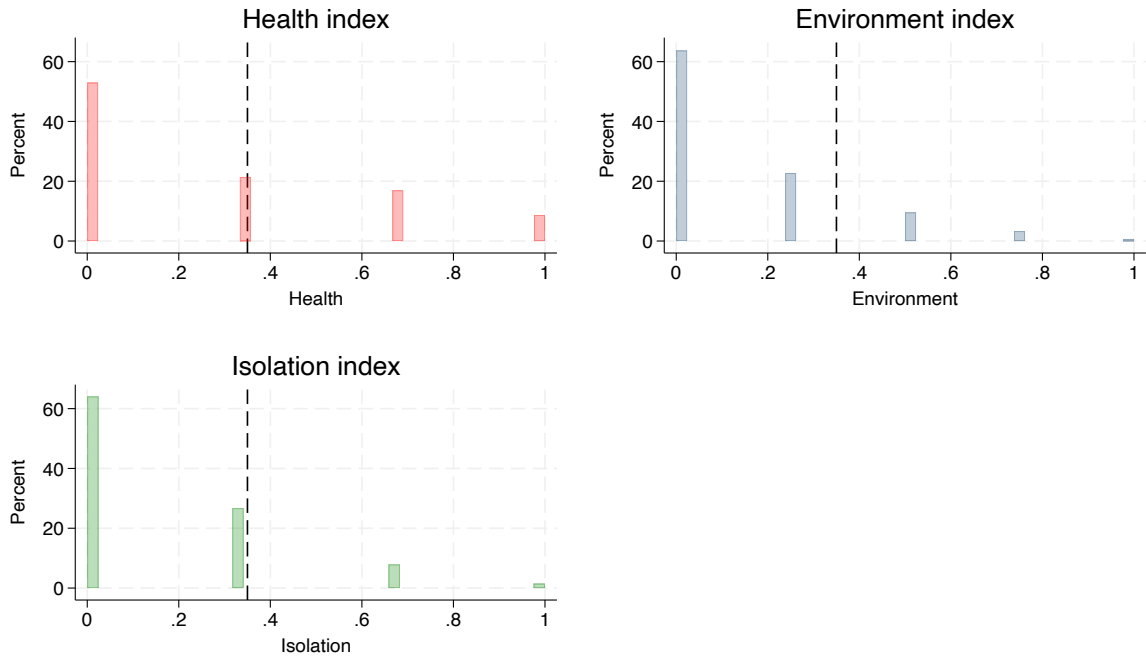


FIGURE 3.7 – Distribution of discrete composite variables

Note : All years (2010–2019).

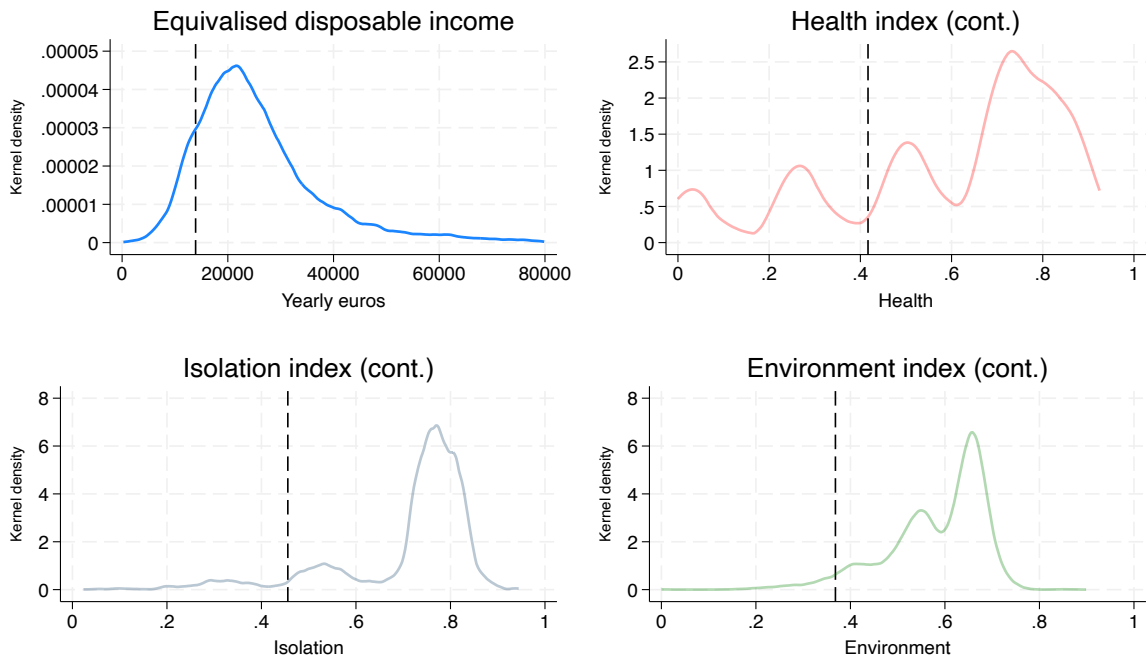


FIGURE 3.8 – Distribution of continuous variables

Note : All years (2010–2019).

Extensions of M_0 . As the product of the two partial indices H and A , the measure M_0 is sensitive to both the frequency and intensity of multidimensional poverty. It notably satisfies the assumption of dimensional monotonicity : if a poor person becomes deprived in an additional dimension, both A and M_0 increase. However, since the measure M_0 is based on a partition of data between poor and non-poor individuals, it does not allow for the exploitation of specific information on the level of poverty in each dimension. Consequently, it does not comply with the transfer axiom, a traditional concept in this literature, stating that an improvement in a poor person’s situation in at least one dimension should contribute to the overall reduction of their poverty. To address this, it is multiplied by the average poverty gap $G = |g^1(k)|/|g^0(k)|$. The index M_1 is then defined as $M_1 = H * A * G$. Finally, to account for the fact that the impact of an increase in poverty should differ depending on the level of deprivation of the person and be greater if the person is in severe deprivation, it is possible to define an index M_2 , representing the product of H , A , and S , or the average severity of deprivations, defined by $S = |g^2(k)|/|g^0(k)|$. Alkire and Foster (2011) generalize measures M_0 , M_1 , and M_2 to a family of measures M_α defined as the sum of the α powers of the normalized shortfalls of people in poverty, denoted by $|g^\alpha(k)|$, divided by the maximum possible value of this sum, denoted by nd .

Box-Cox Transformation. To account for the imperfect substitutability between the continuous dimensions of poverty, the coefficients associated with these dimensions are transformed using a Box-Cox transformation. For each dimension j in the space income, health, housing, sociability, we have :

$$X_{it}^j = \begin{cases} [(Y_{it}^j)^{\epsilon_j} - 1]/\epsilon_j & \text{when } \epsilon_j \neq 0 \\ \log(Y_{it}^j) & \text{when } \epsilon_j = 0 \end{cases}$$

where Y_{it}^j is the observed outcome of individual i in period t in dimension j . For the binary unemployment variable, $Y_{it} = X_{it}$. The three transformation parameters specific to each dimension, ϵ_j , are chosen to maximize the overall fit of the model.

Principal Component Analysis. We present the results of a principal component analysis on our 2019 dataset. We use continuous variables for health and social isolation, like in the social welfare method, because the first component explains slightly more variance than when using discrete variables. Table 3.8 represents the eigenvalues of the correlation matrix, which denote the variances of each principal component, ordered from largest (Comp1) to smallest (Comp8). The corresponding eigenvectors appear in Table 3.9. The first component explains 31% of the sample variance, which is quite low. The first five components altogether explain slightly less than 80% of the variance. However, if we restrict the analysis to these five components, a large share of the variance remains unexplained. Looking at the first column (or eigenvector) of Table 3.9, the linear combination that explains the more variance, we see that the values assigned to each dimension roughly represent the strength of their correlation with the remaining dimensions. Following Klasen (2000)'s, method, social isolation, income and material deprivation would be given the highest weights, skills unrecognized and low work intensity the lowest.

TABLE 3.8 – Eigenvectors

	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.44	1.35	0.31	0.31
Comp2	1.09	0.08	0.14	0.44
Comp3	1.01	0.09	0.13	0.57
Comp4	0.92	0.07	0.12	0.68
Comp5	0.85	0.18	0.11	0.79
Comp6	0.67	0.09	0.08	0.87
Comp7	0.58	0.16	0.07	0.95
Comp8	0.42	.	0.05	1.00

TABLE 3.9 – Principal component analysis

	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7	Comp8	Unexplained
income	0.45	-0.29	-0.08	-0.26	0.13	0.38	0.46	-0.51	0.00
low work intensity	0.17	-0.42	0.37	0.77	0.21	-0.06	0.11	0.06	0.00
material deprivation	0.48	-0.04	0.09	-0.02	-0.14	-0.23	-0.71	-0.42	0.00
low health (continuous)	0.21	0.56	-0.35	0.52	-0.20	0.44	-0.00	-0.07	0.00
no education	0.27	-0.09	-0.68	0.04	0.55	-0.31	-0.05	0.24	0.00
skills unrecognized	0.17	0.53	0.48	-0.15	0.65	0.11	-0.04	0.06	0.00
social isolation (continuous)	0.48	-0.19	0.12	-0.21	-0.23	0.34	-0.12	0.70	0.00
dissatisfaction with life	0.40	0.31	0.12	-0.01	-0.33	-0.61	0.49	0.06	0.00

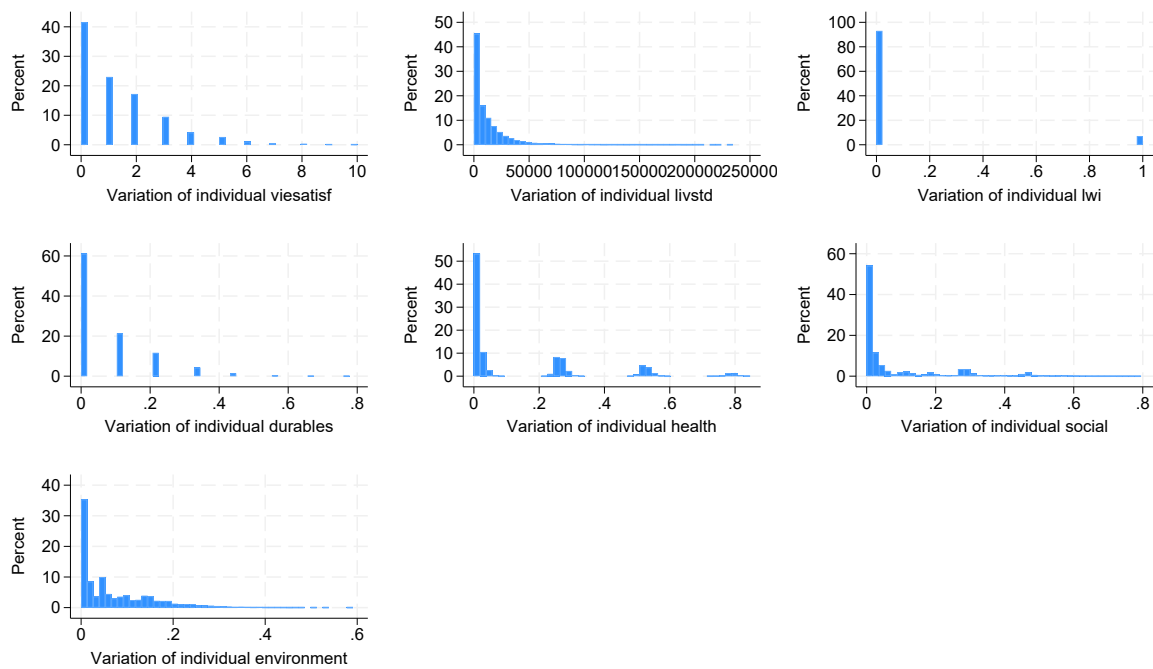


FIGURE 3.9 – Distribution of the average variation in life satisfaction and poverty dimensions at the individual-level

Lecture : On average, 40% of surveyed respondents report the same level of life satisfaction over time. 90% of surveyed respondents remain either employed or unemployed.

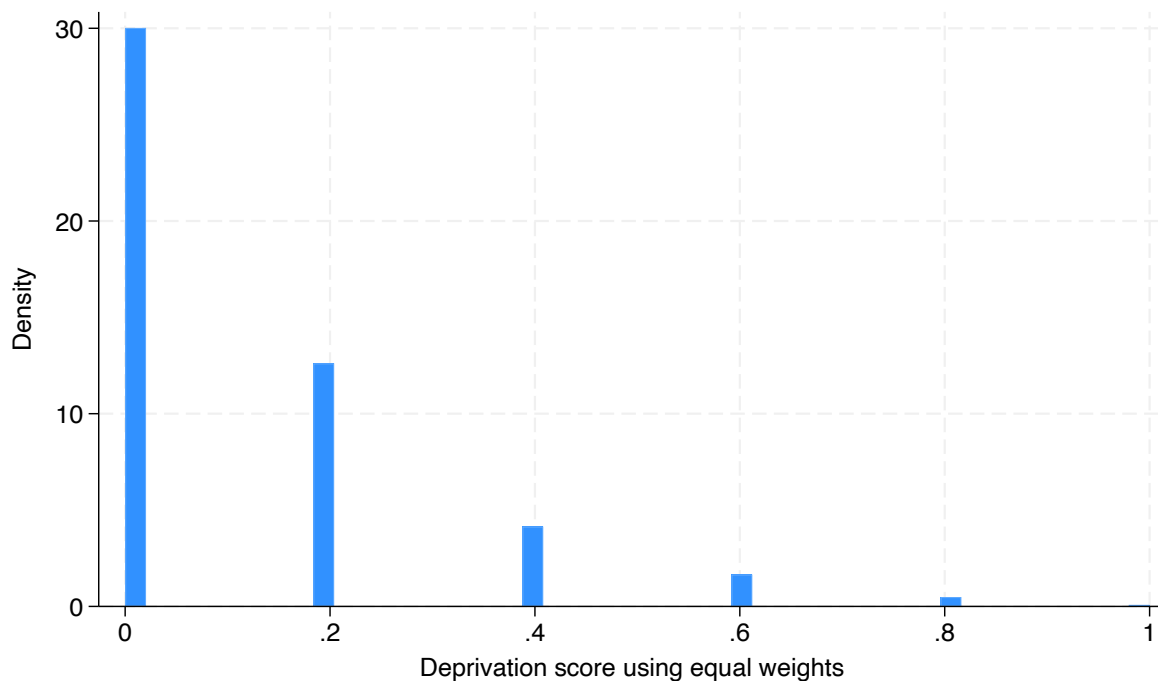


FIGURE 3.10 – Distribution of the deprivation score using the counting method with equal weights

Lecture : Around 29% of individuals are not deprived in any of the five dimensions, and 13% are deprived in one dimension out of the five.

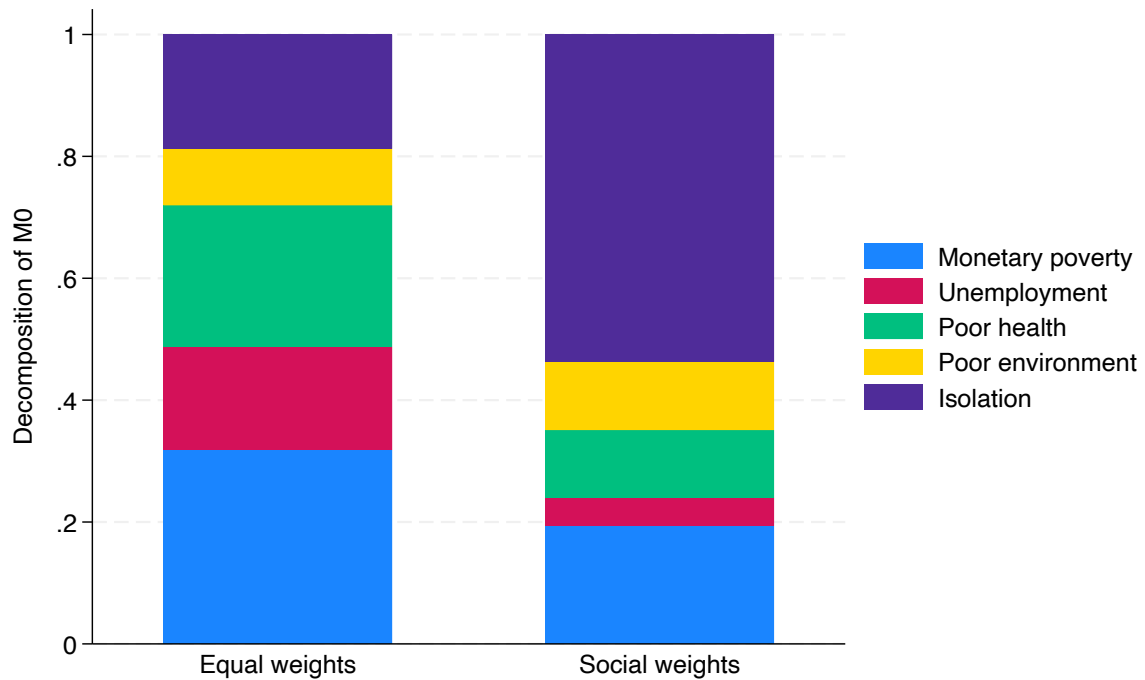


FIGURE 3.11 – Percentage Contribution of Each Dimension to Multidimensional Poverty By Weighting Scheme

Lecture : The bars represent the percentage contribution of deprivation in each dimension to overall multidimensional poverty, or the percentage of the Multidimensional Poverty Index attributed to deprivations in each dimension.

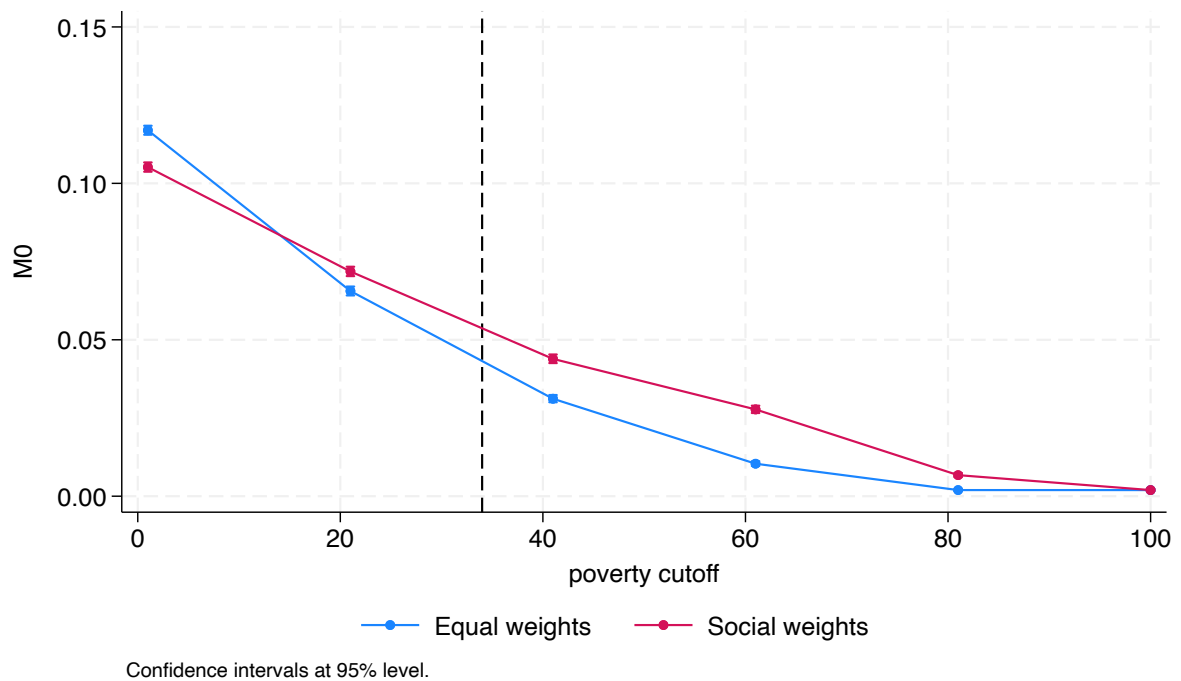


FIGURE 3.12 – MPI for Different k by Weighting Scheme

Lecture : M_0 is the product of the incidence of poverty H and the intensity A . The multidimensional poverty index for all individuals who suffer from more than 1 deprivation out of the 5 is 7% when we use equal weights across dimensions, and 8% when we use social weights.

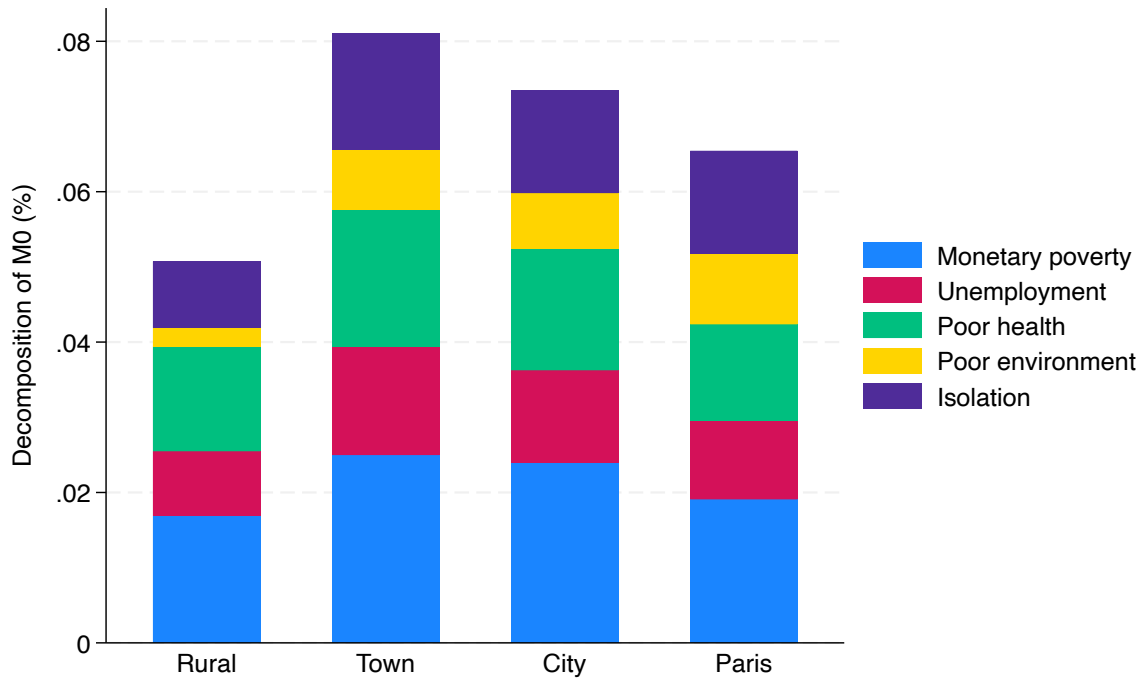


FIGURE 3.13 – Absolute Contribution of Each Deprivation Indicator to Poverty by Subnational Area

Lecture : M_0 is the product of the incidence of poverty H and the intensity A . The bars represent the absolute contribution of deprivation in each dimension to M_0 . The height of the bars varies depending on the urban density area considered.

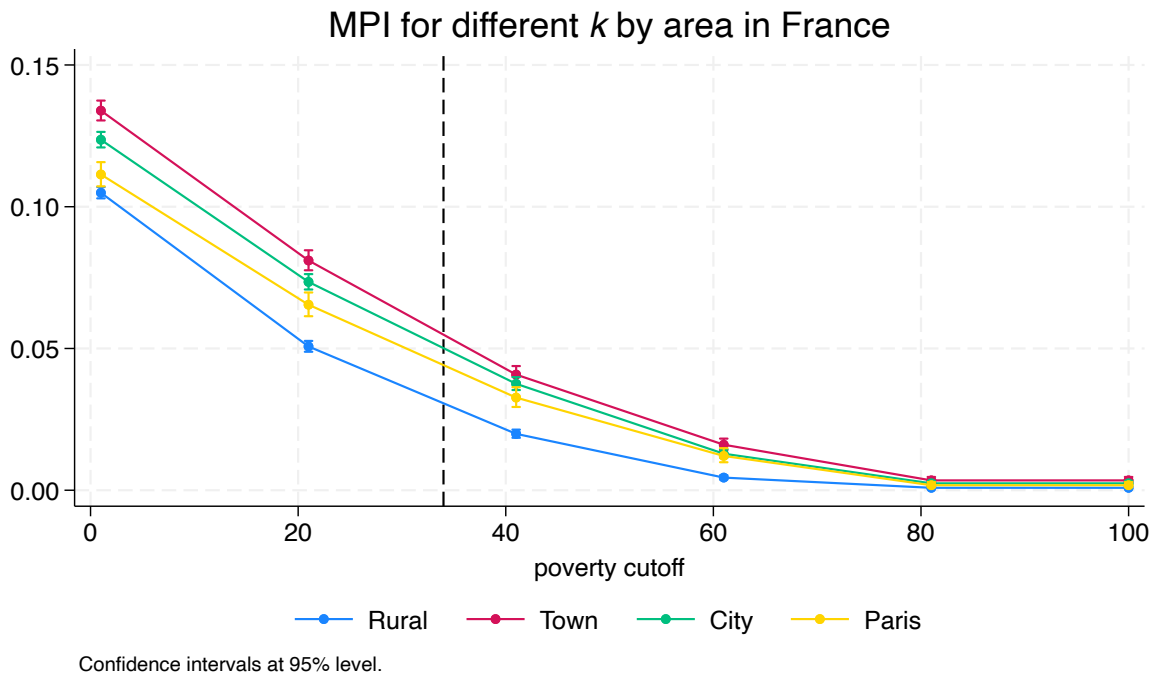


FIGURE 3.14 – Subnational Disparities in M_0 by Poverty Threshold

Lecture : M_0 is the product of the incidence of poverty H and the intensity A . The multidimensional poverty index for all individuals who suffer from more than one deprivation out of the five is 5% in rural area, 7% in the Paris agglomeration, 8% in cities other than Paris and 10% in middle-sized towns.

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