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Recessions, expectations, and labor supply dynamics

Maurizio Bovi · Massimo Mancini

Abstract We examine how expectations on macroeconomic evolutions affect as many as twelve different labor market status transitions in bad economic times. Such a refined analysis of job search frequencies highlights intriguing findings. In bad economic times, e.g. to make up for the loss in family income, not-working agents would like to work. On the other hand, individuals are somewhat discouraged by the deteriorated expectations and they exert only a limited search effort. This latter turns out to be insufficient to find work in poor labor markets. All in all, the evidence pins down the widespread presence of "timid" responses, depicting a hybrid picture that hardly can be related to one single theoretical approach. Specifically, our findings suggest refining the standard dichotomic setting behind the discouraged worker and added worker literature. Results are based on a battery of multinomial logit models and controlled for several individual-level and aggregate variables.

Keywords Expectations · Labor supply dynamics · Survey data · Job search

JEL Classification D84 · J21 · J64

1 Introduction

Job search models predict a strong relationship between the business cycle and job search activity. In particular, during recessions the job finding rate decreases and fewer workers decide to participate in the labor market—"discouragement" among agents increases

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(Pissarides 2000). Moreover, the crisis-induced reduction in overall wages may lower the labor force participation rate by shrinking the opportunity cost of leisure (McKenzie 2003). Finally, the lower odds of finding a job in a weak economic environment may raise actual and perceived job search costs, again ending in the discouraged worker effect.

It is important to notice since now that in this paper the discouraged worker is a person who reduces, not necessarily to zero, his/her job search effort. This is different—and more general—with respect to the standard theory on discouraged workers, according to which discouraged people exit from the labor force, i.e. they simply stop seeking work. Pries and Rogerson (2009) have recently questioned the unemployed–employed dichotomy of the overwhelming majority of search/matching models. They argue that abstracting from the participation margin may be a serious omission. Somewhat following their suggestion, we study an unusually large number of labor market transitions to shed some light on "weak" forms of discouragement.

The search/matching theory gives a lot of attention to the process by which people move into work, but it does not consider other aspects of participation decisions that are particularly relevant in bad times. One outstanding instance is the risk-sharing role potentially provided by the family. If the husband suddenly becomes unemployed or ill, e.g., the wife may enter the labor force to make up for the loss in family income—a phenomenon known as the "added worker"[1] effect (Woytinsky 1940a, b; Lundberg 1985; MaCurdy 1985). A push clearly opposite to discouragement.

Though the added worker literature does not quantify explicitly the increase in wives' job search frequency, it is natural to imagine that—once economic conditions call for their participation—wives should seek work as actively as they can. This said, existing evidence (Maloney 1991; Arpaia and Curci 2010; Bettio et al. 2012) suggests that women with frequently unemployed spouses actually look for work but often fail to find jobs. In this sense one should speak about an "added-effort" rather than an "added worker" effect. It is not a matter of mere definition. As previously said about the possibility of weak , examining nuanced behaviors might permit to reveal relevant details about agents' participation decisions that typically remain uninvestigated.

Against this framework we see our main aim to analyze the empirical links between macroeconomic expectations and a number of job search frequencies amid economic turmoils. Our intended contribution is twofold. First, we analyze as many as twelve transitions. To the best of our knowledge this is the first attempt to perform such an in-depth analysis of labor supply choices. It allows us (i) to disclose several intriguing features of the labor supply usually left unexplored, and (ii) to gather evidence on refined versions of the traditional discouraged- and added-worker frameworks.[2] Second, we explicitly address the role of agents' beliefs on aggregate evolutions in shaping participation choices (see Manzoni et al. 2011 for a comple-

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[1] The concept of "additional worker" has also been used to describe the hypothesis that favorable economic conditions attract secondary workers into the labor force. In this paper the expression "additional worker" is used to denote the presumption that adverse economic conditions induce secondary workers to enter the labor force.

[2] The existing evidence on textbook added worker and discouraged worker effects is mixed. Some studies find no evidence of the former (e.g., Layard et al. 1980; Maloney 1987, 1991), others do find only small magnitudes (e.g., Mincer 1962; Heckman and MaCurdy 1980, 1982; Lundberg 1985; Spletzer 1997; Gruber and Cullen 1996). Offsetting effects between the added worker and the discouraged worker effect are then found by several authors (Humphrey 1940; Layard et al. 1980; Bardhan 1984; Maloney 1991; Humphrey 1996). Instead, Stephens (2002), Parker and Skoufias (2006b), Bhalotra and Umaña-Aponte (2010), and Kohara (2010) have found significant added worker effects. Kim and Voos (2007) and Filatriau and Reynès (2012) report evidence on discouraged worker effects. Parker and Skoufias (2006a) find that the husband's unemployment increases the wife's probability of entering the labor force especially during the crisis.

mentary view on subjective factors and labor market decisions). In doing that we follow the McFadden's advice on the importance of perception for both theoretical and empirical study of economic behavior (McFadden 1999). Despite their differences, indeed, expectations are paramount in both the discouraged and added worker stories. Just to mention, under the assumption that unemployment is perceived as a transitory reduction in earnings, the added worker literature generally concludes that small effects are an optimal response within a life-cycle framework (Lundberg 1985). Nonetheless, the empirical literature barely considers explicitly expectational variables. We aim at filling this gap.

The remainder of this paper is organized as follows. Section 2 introduces the case study. Section 3 describes the dataset. Section 4 reports some descriptive statistics. Sections 5 and 6 discuss, respectively, the econometric framework and empirical findings. Concluding remarks and two Appendices—dealing with expectational data and robustness checks - close the paper.

2 The case study

The recent developments and some structural characteristics of the Italian economic system make it a suitable case for study labor market dynamics in bad economic times. According to the existing literature, indeed, macroeconomic evolutions are among the determinants of job search decisions (see note 2; Moser 1986; Rothstein 2012) and Italy, as many other countries, was hit by the 2008 world-wide economic crisis. Yet the situation in Italy was made even worse by the contextual strong, prolonged, and eventually credible fiscal consolidation. This sustained dramatic macroeconomic outlook might have induced a significant level of discouragement among Italians. As individuals expect governmental generosity to decline, on the other hand, it becomes vital for the family to maintain income levels via adding workers. Of course the family may also turn to private credit and insurance markets rather than to its own smoothing mechanisms. As shown by Heckman and MaCurdy (1980), in a life-cycle model with perfect certainty and no credit market constraints, variations in a husband's earnings have little effect on the wife's labor supply. The added worker effect may be sizeable, however, if either of the two conditions fails. Since Italy has far from perfect private credit and insurance markets and it is experiencing recessionary periods, added worker effects may emerge. Lastly, it is worth stressing that degenerating economic environments may induce changes in labor supply even among households still not directly hit by idiosyncratic shocks. Both current and expected macroeconomic developments matter.

The second reason to focus on Italy is that informal social networks are particularly relevant in this country and this, in turn, affects participation choices. For instance, insufficient child-care services pay off for women to stay at home. It is conceivable, then, that in poor labor market prospects families react to husbands' layoffs not only through changes in wives' labor supply, but also through increases in work hours of working age children.[3] This kind of reaction is made more probable in recent years because a growing proportion of youth postponed departure from home (Card and Lemieux 1997). Once again Italy turns out to be a good case-study. In fact, data for Italy show that the number of young NEET (i.e. Not in

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Footnote 2 continued

Alike, Cunningham (2001) and Congregado et al. (2011) report evidence of an increase in labor supply in response to weaker macroeconomic conditions, interpreting it as a manifestation of the added worker effect. Our paper adds to this literature offering further, more refined, evidence.

[3] Though originally limited to spouses' labor supply decisions, an obvious extension of the traditional added-worker approach is to consider other family members that potentially can become added workers (e.g., grown children).

Education, Employment or Training) was, in 2011, above two millions—among the worst in Europe, with only Bulgaria and Greece doing as bad. Moreover, figures rise in recession. It is worth stressing that another possible interpretation behind the huge number of Italian NEET is that it is the result of widespread discouragement. In sum, the presence of relevant informal social networks enlarges the possibility and usefulness to examine in-depth both discouraged- and added-worker effects.

The last important reason to focus on Italy is that we can take advantage of a unique dataset with a huge amount of micro-data (Sect. 3). Crucially, data allows examining individual-level transitions between four labor market states — Employed, Unemployed, Attached and Out of the Labor Force.[4] We can then afford to analyze sixteen labor market states and, accordingly, twelve transitions. To the best of our knowledge this is the first attempt to perform such an in-depth analysis of labor supply decisions.

3 Data

3.1 Labor market data

The dataset used covers the period 2007–2012 and it is made up by three kinds of data: micro, macro, and expectational. Individual-level information is sourced from longitudinal data gathered by the Italian Labor Force Survey (ILFS), a household-based survey of individuals aged 15 years or older. It is extremely rich and particularly suitable for analyzing employment transitions because of its panel structure. The ILFS is conducted quarterly as a 2-2-2 rotating panel with approximately 200,000 dwellings.[5] Specifically, each household member is interviewed in two consecutive surveys and, after being excluded from the sample for two quarters, (s)he is re-interviewed in another two consecutive quarters. This is defined as a "2-2-2 rotation", and it allows maintaining half of the sample unchanged both in two consecutive quarters and in quarters 1 year ahead (the percentage of overlapping is 25 % for surveys separated by three and five quarters).

Our labor market data follow the guidelines of the International Labor Organization (ILO 1990, 2009) according to which individuals may be in one of four, mutually exclusive, labor market states—Employed (E), Unemployed (U), Attached (A) and Out of the Labor Force (O). In view of the multinomial logit estimations of Sect. 5 and 6 it is worth noticing that people are allocated in one of these four states exhaustively. That is to say, unsurprisingly, ILO definitions do not allow that alternative permanence/transitions are left-out. Given our purposes, clear-cut definitions appear necessary:

E are persons, aged 15 and over, who during the reference week performed work—even if just for one hour a week—for pay, profit or family gain. Alternatively, the person was not at work, but had a job or business from which she/he was temporarily absent due to illness, holiday, industrial dispute or education and training.

U are persons aged 15 to 74, (i) without work during the reference week, (ii) available to start work within the next two weeks (or have already found a job to start within the next three months), (iii) actively having sought employment at some time during the last four weeks.

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[4] For formal definitions of labor states cfr. Sect. 3.

[5] The longitudinal component does not represent the entire population but only the residents in the same municipality at the beginning and at the end of the period under consideration. This part of the population is thereafter called the "longitudinal population" However, the low level of mobility of the population across the country implies that only a small part of the overall population is not taken into account. Moreover, these individuals tend to behave differently on the labor market with respect to the longitudinal population (Mussida and Lucarelli 2014).

A are persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months (or since the end of their last job if they held one within the past 12 months), but were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey.

O is someone aged 15 to 74 who, in accordance with the previous definitions, are neither employed nor unemployed nor attached. Hence, those here classified as "*O*" include only individuals who strictly neither want nor search for a job.

Our research focus suggests to exclude retirees from the dataset and to underline that the last three states are ordered according to a decreasing level of job search activity.[6] We have two separate datasets, one with information on only the first quarter (Q1), the other with information on only the second quarter (Q2) of each year. Comparing the corresponding quarters of two consecutive years allows studying transitions over a one-year period. For instance, labor market evolutions in 2007 are computed comparing data for 2007.Q1 and 2008.Q1 (2007.Q2 and 2008.Q2 in the second dataset with only information on Q2). Given these two separate datasets, we end up with two sets of data covering 5 years (2007–2011), each consisting of four permanence and twelve transitions. We analyze this pair (referring to .Q1 and .Q2) of sixteen combinations via multinomial logit (ML) estimations with more than 20,000 observations each (cfr. Sect. 4, Table 1).

3.2 Left-hand-side variables

As mentioned (Sects. 1 and 2), transitions may be induced by both individual-level situations and degenerate economic environments. Referring to these latter, both current and expected stances play a key role in driving labor supply decisions. Hence, in view of the empirical analysis performed in Sects. 5 and 6, we have collected three sets of variables:

(i) Demographic and Household characteristics. ILFS contains individual-level data for gender, age, citizenship, educational attainment, previous working experience (for not-working people), and labor market state. As usual in the literature, education dummies proxy personal income levels (see, e.g., Harmon and Walker 1995). Altogether individual-level data proxy current and expected microeconomic conditions. We use the whole set of these micro data in all the performed ML regressions.

(ii) Local Economic Environment. This group contains annual growth rates[7] of GDP (y), Consumption (c) and Employment (e, full-time equivalent units) across twenty regions. These variables are deemed to pick up the state of the local labor market as well as the effect of current business cycle on labor market transitions (Bhalotra and Umaña-Aponte 2010).[8] Our preferred—and best fitting—model contains combinations of these variables that have an important economic meaning to our end (cfr. Sect. 2). Specifically, we control for labor demand conditions inserting labor productivity ($y - e$), and for financial/credit conditions via savings ($y - c$). For robustness checks (Appendix B) we have also performed ML estimations substituting the growth rates of labor productivity and savings with the three local economic environment variables taken separately. That is to say with y, c, and e instead of ($y - e$) and ($y - c$).

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[6] In principle even employed persons may spend some time seeking jobs. The literature refers to this as on-the-job search. Our main research interest, however, lies in the job search efforts of not working people.

[7] Specifically, annual growth rates are computed as follows: $\left(\dfrac{Qi_{year}}{Qi_{year-1}} \right) - 1$, where Qi is the i-th quarter of the year and, according to the availability of the micro data, i = 1, 2 and year = 2007, ..., 2012.

[8] Note that our interest is in current labor market conditions: employment is better than unemployment as a proxy for these latter in our setting.

(iii) Expectations. For our goal, a unique dataset can be obtained from the Business Surveys Unit of the European Commission (European Commission 2007). While the previously described micro and macro variables are often used in the literature, to the best of our knowledge this is the first attempt to consider survey expectations to study labor force participation decisions. Data is based on monthly surveys and each survey is based on two-thousand interviews to capture the representative agent living in four macro-regions (North-West, North-East, Centre, South and Main Islands). Specifically, we use agents' beliefs on two macroeconomic fundamentals—"unemployment over the next year" (*unexp*), and "economic situation over the next year" (*fut*). In order to estimate our ML models, we compute annual averages of these monthly data. Other details on these two expectational variables can be found in the next section and in Appendix A.

4 Descriptive statistics

4.1 Labor supply dynamics

Table 1 reports the distribution of agents according to their annual (Q1oQ1) labor market status evolution over five years in Italy.

As indicated in Table 1, XY is the transition from status X to status Y, where X,Y = (*E, U, A, O*). The statistics collected in Table 1 reveal that, as expected, the percentage of individuals maintaining their E or O status is very high. The sum of the shares EE and OO steadily amounts to about 75 % over the five years under scrutiny, with the former always being about the double of the latter.

In looking at transitions our research focus suggests to recall that the job search frequency reduces in passing from U to A and from A to O. In this latter state, indeed, there is no search at all. Note also that transitions towards employment (UE, AE, OE) are less informative than the others because we deal with changes in job search intensity—we cannot precisely know how much seeking effort has been put in order to find work.[9] Moreover, whereas transiting towards U, A, and O states is surely a labor supplier's decision, actually succeeding in finding a job also depends on the labor demand. Otherwise stated, searching for job is necessary but not sufficient to become employed. This is true especially in bad times (Maloney 1991). Sensu stricto, it is worth repeating, one should actually speak about an added-effort rather than an added-worker effect as instead typically done in the literature. In Sect. 6 (Table 2) we shall offer a comprehensive view of our interpretative scheme.

According to Table 1 fired persons[10]—i.e. agents who were E in the first year of the comparison then resulting no more employed in the next year—have chosen to remain in the labor force. While the share EO records several reductions in the sample (from 2.16 to 1.73), in fact, the figures referring to EU and EA almost uniformly increase (from 0.93 to, respectively, 1.36 and 1.14). Comparing these two latter shares, it seems that previously employed individuals prefer unemployment to the A status—their job search activity is relatively strong. All considered, therefore, unconditional statistics suggest the emergence of weak mid-term discouragement (recall that in our framework discouragement implies reduced, not necessarily zero, job search activity).

People deciding to move from unemployment to the O or A status prefer the latter to the former, i.e. UA > UO, again indicating partial mid-term discouragement. This is true

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[9] In this sense it is not possible to order labor market dynamics according to job search intensity.

[10] We assume that, due to the poor economic environment under study, by far the majority of people moving from E to another labor status transits because fired. Otherwise stated, exit from employment is not a worker's free choice (cfr. Rothstein 2012).

Table 1 Labor Supply Dynamics in the last Economic Crises. Italy 2007–2011

Real GDP annual growth rate %	2007		2008		2009		2010		2011	
	0.5		−6.9		0.9		1.4		−1.7	
	Freq.	Share	Freq.	Share	Freq.	Share	Freq.	Share	Freq.	Share
From employed to employed (EE)	12,442	51.4	12,586	51.27	11,405	50.07	11,924	50.84	10,192	50.57
From employed to unemployed (EU)	225	0.93	300	1.22	283	1.24	273	1.16	275	1.36
From employed to attached (EA)	224	0.93	267	1.09	219	0.96	222	0.95	230	1.14
From employed to out of the labour force (EO)	524	2.16	506	2.06	494	2.17	426	1.82	348	1.73
From unemployed to unemployed (UU)	279	1.15	368	1.5	380	1.67	445	1.9	383	1.9
From unemployed to employed (UE)	322	1.33	292	1.19	280	1.23	354	1.51	258	1.28
From unemployed to attached (UA)	226	0.93	264	1.08	238	1.04	296	1.26	264	1.31
From unemployed to out of the labor force (UO)	106	0.44	169	0.69	168	0.74	195	0.83	129	0.64
From attached to attached (AA)	669	2.76	682	2.78	653	2.87	747	3.18	622	3.09
From attached to employed (AE)	331	1.37	270	1.1	283	1.24	261	1.11	223	1.11
From attached to unemployed (AU)	279	1.15	251	1.02	264	1.16	245	1.04	323	1.6
From attached to out of the labor force (AO)	574	2.37	705	2.87	575	2.52	598	2.55	447	2.22
From Out of the labor force to out of te labour force (OO)	6,695	27.66	6,778	27.61	6,568	28.84	6,556	27.95	5,490	27.24
From out of the labor force to employed (OE)	452	1.87	357	1.45	298	1.31	307	1.31	239	1.19
From out of the labor force to unemployed (OU)	197	0.81	192	0.78	201	0.88	171	0.73	211	1.05
From out of the labor force to attached (OA)	660	2.73	562	2.29	468	2.05	435	1.85	522	2.59
Total	24,205	100	24,549	100	22,777	100	23,455	100	20,156	100

Annual growth rates are computed as follows: $\left(\frac{Q1_{year}}{Q1_{year-1}}\right) - 1$, where Q1 is the first quarter of the year and year = 2007, ..., 2011. E.g., 2007 numbers refer to the period 2007.Q1-2008.Q1

especially in the last year, that is to say in the second of the two close recessions featuring our case study. Unemployed transitions towards employment (UE) show a clear cyclical pattern, unsurprisingly decreasing in crisis and rising in recovery—the deeper the recession, the lower the probability of being employed. It is worth repeating—an individual may decide to add effort, actually succeeding in finding work when the labor demand is weak is another matter.

As per previously marginally attached (*A*) agents Table 1. indicates that, in choosing between standard discouragement (i.e. stop seeking, hence becoming an *O*-person) or putting additional search effort (i.e. acting as *U*), they favor the former. Yet, this happens in the first great recession only. In the most recent slump *A*-agents seem to conform to the added-worker setting. In our setting a possible, intriguing, explanation is that *A*-persons could afford to be discouraged after the first shock. After the second, close, crisis—and considering the more and more credible fiscal consolidation—they had no other choice than to actively seek work. In any case, these dynamics may explain the mixed results typically reported by the empirical literature looking for discouragement and/or added worker effects (Sect. 2).

Former out-of-the-labor-force (O) agents appear to add more job search activity during the last economic crisis than in the 2008 one. A tentative interpretation in the light of the added worker framework is that O-people need an enduring push before deciding to enter the labor force in a more motivated way. A deeper, but isolated, hiccup seems not enough for them. Over the whole sample period then, OA > OU, an inequality suggesting that O-agents are inclined towards a step-by-step pondered approach when choosing to enter the labor force. This behavior is not congruent with standard dichotomic approaches dealing with labor supply dynamics. OE-transitions incessantly decrease during the period covered by the data, again possibly reflecting the poor economic environment under scrutiny.

4.2 Expectations on macroeconomic evolutions

Figures 1 and 2 offer a visual insight of the two expectational variables used in the econometric analysis of Sects. 5 and 6.

Both expectations vary between ±200 and balances equal to zero indicate neutral beliefs. It is worth noticing that, by construction, when *unexp* is positive then people are on average more pessimist than optimist. A balance of +200 means that all agents expect a strong increase in the number of unemployed. The sign must be inverted for expectations on the more generic personal and nation-wide economic climate index—a balance of −200 means that all agents expect a dramatic weakening in the economic situation (cfr. Appendix A).

Figure 1 points out that all Italians (with the possible exception, in any case very mild, of southern people) have a very similar idea of what is going on in labor market conditions one year ahead. The correlation between the less similar beliefs (North-West and South) is as high as 98.2 %. This is an expected result because expectations on the same macroeconomic fundamental should be grounded on the same information set and, accordingly, should not diverge dramatically. Similar considerations and results hold for the other expectational variable, *fut*. Figure 2 shows almost identical patterns. The correlation between the less similar beliefs (again North-West and South) is 98.8 %. Both expectations, finally, correctly mirror the poorer and poorer economic environment (cfr. Table 1), which is reassuring about the reliability of our survey data. In the last three years of the sample *unexp* maintains very high values and *fut* shows a dramatic reduction.

Now, how has this dramatic and sustained aggravation of macroeconomic expectations impinged on labor supply decisions? To offer reliable answers a formal econometric analysis is paramount. We perform it in the next sections.
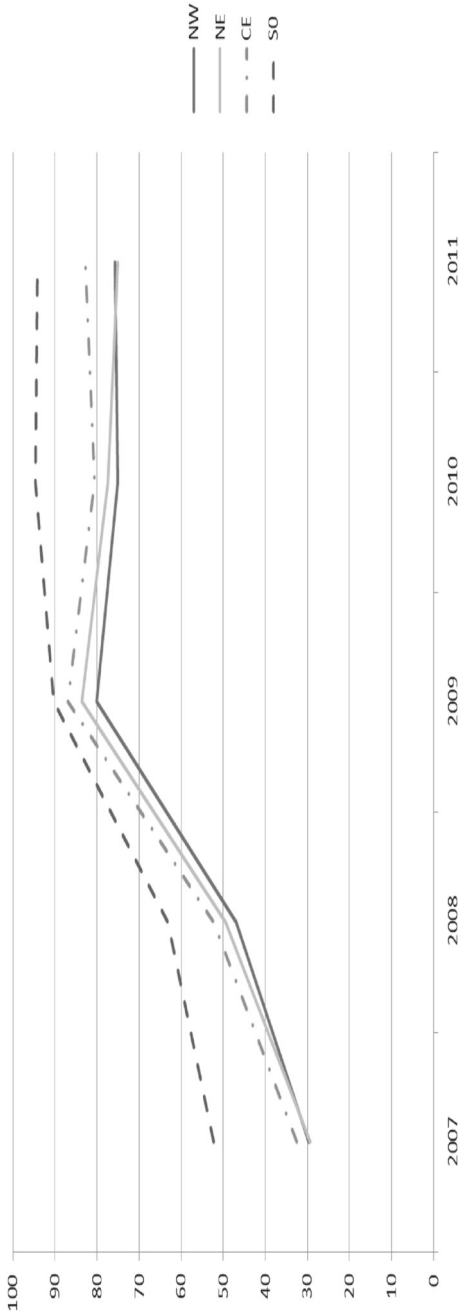
5 Empirical methodology

5.1 Model specification

In assessing labor supply responses to expectations, we define permanence and transitions in the labor force participation status:

$$P_{ij} = \Pr(P_{t+1} = s_{t+1} | P_t = s_t)$$

where j is the transition/permanence for the individual i, while s_t and s_{t+1} are, respectively, the labor market status at time t and t + 1. We have estimated multinomial logit models separately for each of the five years of the period 2007–2011. These ML models can be formally described as follows (abstracting from error terms):

$$\log\,(P_{ij}|P_{ij*}) = \beta_{0,j|j*} + \beta_{1,j|j*}X_i + \beta_{2,j|j*}(y-e)_{reg}$$
$$+ \beta_{3,j|j*}(y-c)_{reg} + \beta_{4,j|j*}EXPECT_{macreg}$$

Fig. 1 Expectations on unemployment across four Italian macro regions (*unexp*)

Note: Balance of the replies to the query: "How do you expect the number of people unemployed in Italy will change over the next 12 months?" Balance=200(-200) when all respondents expect a sharp increase(decrease) in unemployment. Balance=0 implies that the aggregate belief is neutral. NW=North-West; NE=North-East; CE=Centre; SU=South and Main Islands (Appendix A).
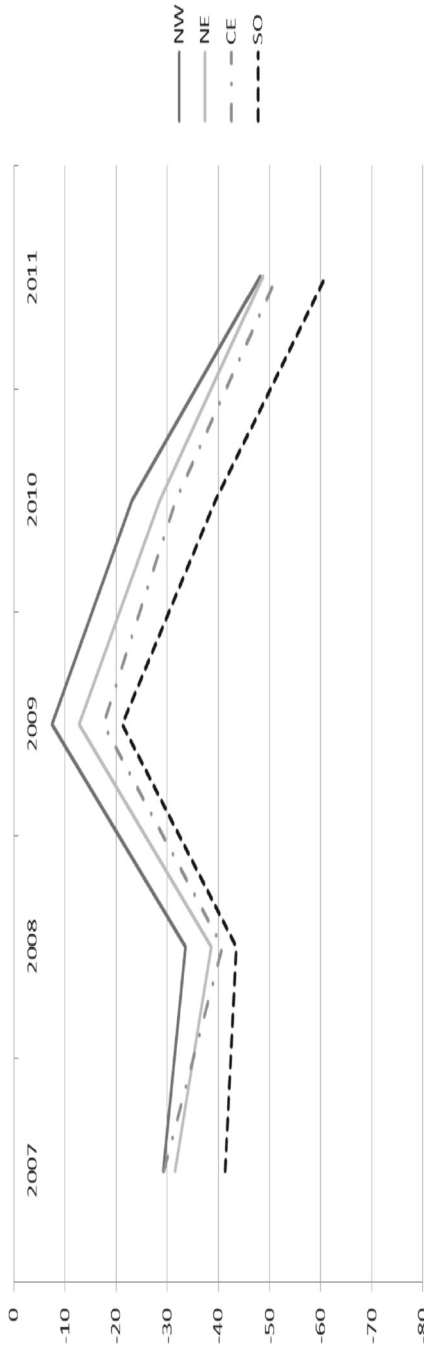
Note: Balance of the replies to four queries about next year economic evolutions.

Fig. 2 Expectations on the economic situation across four Italian macro regions (*fut*). Balance = 200(−200) when all respondents expect a sharp improvement(worsening) in next year economic evolutions. Balance = 0 implies that the aggregate belief is neutral. *NW* North-West, *NE* North-East, *CE* Centre, *SU* South and Main Islands (Appendix A)

where β = coefficient, j = EE, EU, EA, EO, UE, UU, UA, UO, AE, AU, AA, AO, OE, OU, OA, OO (Sect. 3), j^* = reference state. We estimate ML models with two alternative base categories: permanence in the state "Out of the Labor Force" (j^* = OO), permanence in the state "Employment" (j^* = EE), X_i = individual level variables: gender, age, citizenship, educational attainment, previous working experience (Sect. 3), *EXPECT* = Survey expectations. We estimate ML models with two alternative expectational variables: *unexp* and *fut* (cfr. Sects. 3, 4 and Appendix A), ($y - e$) = annual growth rate of labor productivity, ($y - c$) = annual growth rate of savings, reg = Region (20 regions), macreg = macro-region (North-West, North-East, Centre, South and Main Islands).

As it should be clear the parameter of interest is β_4. We use it to compute the average marginal effect[11] (AME) of a ten-unit change in the expectational variable on transitions.

Since our main object of interest is transitions toward different levels of job search activity, we have chosen individuals maintaining the O-status as the preferred reference group. This status implies the total lack of job search effort, thus people persistently not in the labor force appear to be a good benchmark to examine transitions towards greater job search efforts. In order to offer robust evidence, nonetheless, we have also performed the same set of estimations using the largest share, i.e. EE, as the reference group. To the same end, we have estimated all the four alternative models stemming from the combination of the two base categories (OO, EE) and the two expectational variables (*unexp*, *fut*). Also, we have estimated ML models with both current and lagged local economic environmental variables.[12] We have done all that with both our datasets, i.e., .Q1 and .Q2 (results for .Q2 are collected in Appendix B).

In all estimations we have based the search for the best model on usual AI and SBI criteria. The adjusted McFadden's R2 statistic (Ben-Akiva and Lerman 1985) is above 0.4 in all the estimated ML models. It is larger with respect to what typically obtained in the literature, which supports the very good fit of our specifications.

5.2 Discussion on data

Though our individual-level data permit to examine intriguing heterogeneous job search efforts, they do not allow addressing explicitly family-level choices. This is not a substantial issue here because we are not interested in studying family-level decisions. We deal with "generic" expectations-led labor supply dynamics. That is to say, the circumstance that the agent lives alone or with parents is not central for our aim. Think about the effect of deteriorated beliefs on "enlarged" family-level labor supply, i.e. situations with a young single living alone in need of parental help or even middle-aged sons and daughters providing financial support to older parents living alone (Soldo and Hill 1995).

As per expectational data, they refer to the macro-regional representative agent's expectations on nation-wide economic evolutions. Though survey data fit our focus on how beliefs on macroeconomic developments trigger labor supply choices, they can only be matched to micro data at the macro-regional level. This notwithstanding, in our context there is at least one very solid way to obtain reliable evidence from survey expectations. Borrowing from a recent strand of the literature (Curtin 2003; Carroll 2003), we argue that all lay persons form their beliefs using information obtained from mass media. To learn the current local situation people look at publicly available figures such as regional GDP, etc.; to have an idea of future macroeconomic developments they look at publicly available expectational data. Under this

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[11] AMEs are computed as the average of the partial changes over all observations (Bartus 2005).

[12] The results of ML estimations with EE as reference group and with lagged regressors, not reported to save space, substantially confirm our findings. They are available upon request. Robustness checks are collected in Appendix B.

assumption, individual and average beliefs on aggregate economic developments cannot be significantly dissimilar. Note, then, that we consider annual survey expectations. Comparable beliefs are likely to show up when agents have one year to learn the same macroeconomic fundamental. In fact, we have already shown in Sect. 4 that virtually no additional information content emerges from disaggregate expectational data. Altogether, we are reassured that despite expectations data can only be matched to micro data at the macro-regional level that cannot affect substantially our findings.

A final note concerns endogeneity. Our dependent variables deal with microeconomic behavior that can well be affected by macroeconomic conditions. On the contrary, individuals can hardly think to impinge on current or expected aggregate situations when choosing the frequency of their job search effort. This causal role of beliefs in economic decision making is in line with the existing empirical evidence (Carroll et al. 1994; Bovi 2013). All considered, then, endogeneity is not a problem here. This is a nice feature of our approach because, as pointed out by Wooldridge (2010, 2012), accounting for endogeneity in nonlinear models is recognized to be a quite problematic issue in the econometric literature.

6 Results

6.1 Interpretation

The peculiarity and novelty of our empirical approach suggests clearing our interpretative framework. Since we are dealing with bad economic times, we assume that virtually all individuals change their E-status because fired. That is to say, their transition is not a free choice because these agents just cannot avoid losing their employment status. On the contrary, fired agents can freely decide how much effort to put in the job search. This allows us to understand how beliefs shape agents' job search frequency. If they choose to become unemployed (U) rather than to quit (i.e. to become O), we conclude that individuals are not discouraged because they exert non trivial search efforts. If instead they prefer to remain only mildly attached to the labor market (i.e., if they can be classified in the A-status) we then argue that agents are partially discouraged.

Out-of-labor-force agents are at the other extreme of the labor market transitions scheme. Once determined to look for jobs, these agents may do that more or less actively. In the former case they will be classified as unemployed, showing a clear willingness to "add effort". Otherwise they can be thought of as "adding marginal effort". As already emphasized, instead, O-agents cannot freely decide to "add work", i.e. they cannot freely decide to work. Otherwise stated, the OE transition is not completely dependent on agents' will. This lack of decisional power is magnified amid economic turmoils and it parallels the mentioned impossibility for fired people to maintain their E-status.

Two last general indications before concluding. Bearing in mind their definitions (Sect. 4, Appendix A) we expect that in our ML estimations the two expectational variables influence transitions with similar magnitude but with opposite sign. Discouragement emerges when people reduce their job search frequency; added-worker effects show up when people increase their job search frequency.

Table 2 summarizes the proposed interpretation of the empirical picture.

Table 2 Standard and nuanced effects of expectations on transitions in recessions

	Change in expectations	Effect	Transitions
Real or perceived bad economic times => worsened expectations	↑ *unexp;*	Standard discouraged worker	EO > 0; UO > 0; AO > 0
			EU = EA = UA = 0
	↓ *fut*	Partially discouraged worker	EA > EU > EO
			UA > UO
		Standard added worker	OE > 0
		Added effort	OU > 0
		Added marginal effort	OU < OA

Expectations (Appendix A): *unexp* refers to the expected change in the unemployment over the next year (a decrease implies improved expectations); *fut* refers to the expected change in the economic situation over the next year (a decrease implies deteriorated expectations). +200 and −200 is the highest level of pessimism referring to, respectively, *unexp* and *fut*. Since the relative arrows point in opposite directions, they indicate expectations with the same sign (specifically, both *unexp* and *fut* point to deteriorated expectations). As in Table 1, XY is the transition from status X to status Y, where X, Y = (E, U, A, O)

6.2 Empirical evidence

We are now in a position to offer the results of our ML estimations. We collect the average marginal effect on transitions referring to *unexp* and *fut* in, respectively, Tables 3 and 4.

Tables 3 and 4 very clearly show that people's beliefs on macroeconomic evolutions impinge on labor market decisions even controlling for several micro and macroeconomic variables. The vast majority of the reported AMEs is significant. Another general and strong outcome emerging from the visual inspection of the two tables is that examining the effect of beliefs on transitions brings to light extremely nuanced labor supply decisions. We detail this general statement in the following discussion that we base on Table 3 only because both tables report very similar results. Just note that Tables 3 and 4 show univocal, hence robust, evidence (recall that opposite signs for outcomes dealing with *unexp* and *fut* point to the same conclusion).

Table 3 Average marginal effects of expectations (*unexp*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	0.12	0.32	−0.18	−0.13	0.31	0.07	0.27	0.51	0.76	−0.40	0.11	0.93
		0.00	*0.00*	*0.03*	*0.06*	*0.00*	*0.08*	*0.00*	*0.00*	*0.00*	*0.00*	*0.06*	*0.00*
2008	−6.9	0.14	0.70	−0.62	−0.30	0.53	0.29	0.28	0.46	1.70	−0.56	0.00	1.39
		0.38	*0.00*	*0.00*	*0.06*	*0.00*	*0.03*	*0.08*	*0.01*	*0.00*	*0.00*	*0.96*	*0.00*
2009	0.9	0.21	0.72	−0.83	−0.68	0.57	−0.10	1.12	0.94	2.91	−0.57	0.06	1.53
		0.47	*0.01*	*0.03*	*0.01*	*0.04*	*0.66*	*0.00*	*0.00*	*0.00*	*0.05*	*0.81*	*0.00*
2010	1.4	0.20	0.40	−0.30	−0.22	0.34	0.18	0.30	0.59	1.36	−0.30	−0.09	0.56
		0.02	*0.00*	*0.01*	*0.03*	*0.00*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*	*0.23*	*0.00*
2011	−1.7	0.13	0.51	−0.21	−0.26	0.33	0.02	0.26	0.76	1.08	−0.34	0.05	1.16
		0.14	*0.00*	*0.04*	*0.00*	*0.00*	*0.72*	*0.00*	*0.00*	*0.00*	*0.00*	*0.50*	*0.00*

Reported values are the average marginal effect (AME) of a ten-point increase in the balance referring to expectations on the "unemployment over the next year" (= *unexp*. See Sect. 4 and Appendix A). AMEs are computed as the average of partial changes over all observations (Bartus 2005). For instance, the value 0.93 shown in the upper right-end-side of the table is the AME of a ten-point increase in *unexp* on the "Out to the Labor force to Attached" (OA) transition holding all other variables constant. P-values (based on Huber/White/sandwich estimate of variance) are reported in the italicized line below the corresponding AME values. Reference group: permanence in the state "Out of the Labor Force" (= OO)

Table 4 Average marginal effects of expectations (*Fut*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	−0.19	−0.61	0.33	0.24	−0.60	−0.14	−0.42	−0.95	−1.39	0.69	−0.19	−1.66
		0.01	*0.00*	*0.04*	*0.07*	*0.00*	*0.09*	*0.00*	*0.00*	*0.00*	*0.00*	*0.08*	*0.00*
2008	−6.9	−0.41	−0.68	0.58	0.47	−0.79	−0.39	−0.42	−0.63	−2.97	0.55	0.34	−1.66
		0.22	*0.06*	*0.16*	*0.16*	*0.03*	*0.15*	*0.28*	*0.09*	*0.00*	*0.13*	*0.22*	*0.00*
2009	0.9	−0.13	−0.46	0.57	0.45	−0.35	0.07	−0.81	−0.71	−2.09	0.41	−0.02	−1.01
		0.06	*0.03*	*0.04*	*0.03*	*0.10*	*0.68*	*0.00*	*0.00*	*0.00*	*0.06*	*0.92*	*0.00*
2010	1.4	−0.19	−0.51	0.34	0.30	−0.43	−0.22	−0.40	−0.83	−1.83	0.32	0.11	−0.75
		0.11	*0.00*	*0.00*	*0.02*	*0.00*	*0.04*	*0.00*	*0.00*	*0.00*	*0.00*	*0.25*	*0.00*
2011	−1.7	−0.21	−0.75	0.27	0.40	−0.50	0.05	−0.39	−1.12	−1.51	0.47	−0.09	−1.65
		0.11	*0.00*	*0.07*	*0.00*	*0.00*	*0.56*	*0.00*	*0.00*	*0.00*	*0.00*	*0.45*	*0.00*

Reported values are average marginal effect (AME) referring to a ten-point increase in the balance referring to expectations on the "economic situation over the next year" (=*fut*. See Sect. 4 and Appendix A). Other details under Table 3

$E \Rightarrow W(W = U, A, O)$. The negative sign of the AMEs referring to the transition EO and the positive AMEs referring to the EU and EA transitions suggest that deteriorated expectations lead fired people to remain in the labor force. Also, the evidence pins down that ex E-agents are somewhat timid in their job search activity, showing a remarkable preference towards the status of attached (A) with respect to that of unemployed (U). In all years the number of EA transitions is steadily much larger than that of EU. It turns out that gloomy beliefs make these persons only partially discouraged.

$U \Rightarrow X(X = E, A, O)$. Partial discouragement emerges even among former unemployed, i.e. individual moving from U to another status. The constant positive gap between the AMEs referring to the UA and UO transitions highlights that these agents more often opt to remain in the labor market, but also that they apply only weak search efforts. The negative sign of the AMEs relative to the UE transitions is possibly due to the combined effect of timid job search and bad economic times. That is to say, agents would like to work, but their limited search activity—caused by degenerate expectations—is simply not enough to find work amid recessions.

$A \Rightarrow Y(Y = E, U, O)$. Turning the attention to previously attached persons (i.e. individuals moving from A to another status) data inform that, once again, agents are only mildly discouraged. This is so because the sum of the AMEs referring to the AE and AU transitions is tendentially just a bit lower than the AMEs referring to the AO transition. Otherwise stated, the effect of beliefs is such that former A-agents display no clear-cut willingness to choose between applying strictly positive (AE or AU) and zero (AO) job search efforts. It also results that the AMEs relative to the AU transition are larger than those of the AE transition in all years. This is in line with previous findings on the difficulty to "add work" despite the added effort (Maloney 1991; Arpaia and Curci 2010; Bettio et al. 2012).

$O \Rightarrow Z(Z = E, U, A)$. Looking at the labor supply dynamics of ex O-individuals (i.e., agents with zero search activity in the first period only), the evidence shows that depressed macroeconomic expectations lead these persons to put additional job search efforts. Of course exiting from the O status implies to enlarge the search activity by definition. Nonetheless, persons previously out-of-the-labor-force may well choose to seek work with more or less intensity. Our refined framework allows indicating that deteriorated beliefs push these persons towards higher but limited readiness to work—the AMEs referring to the OU transitions are much lower than those referring to the OA ones in all years. This response again contrasts with the traditional dichotomic scheme behind the discouraged worker and added worker literature.

7 Conclusions

We have analyzed empirically how explicit measures of agents' expectations on aggregate developments trigger labor market transitions in a peculiar and poor performing economic environment. Examining as many as twelve transitions has brought to the fore a number of intriguing outcomes. In bad times, e.g. to make up for the loss in family income, not-working agents would like to work. On the other hand, these agents are discouraged by deteriorated expectations on macroeconomic evolutions and, hence, they exert only a limited search effort. This latter turns out to be insufficient to find work in poor labor markets.

Though eminently empirical, we believe that our analysis may be of some help even for theoretical approaches dealing with standard "dichotomous" discouraged- and added-worker effects (Pries and Rogerson 2009). Unlike the standard discouraged-worker framework, for instance, it results that employed persons pushed by economic crises into not-working states are not totally discouraged in the sense they continue to seek work. Since the standard discouraged worker exit from the labor force, we have interpreted this evidence as agents being only partially discouraged. We can add even more details. The effect of expectations is such that the agents' search activity turns out to be neither strong nor zero—agents remain only marginally attached to the labor market. In line with the added worker literature, then, data show that amid recessions out-of-labor-force individuals enter the labor force. Our setting highlights that worsened beliefs cause these agents to add only limited job search efforts. Again, the marginal added effort effect emerging from our evidence turns out to be different and more nuanced than the traditional added worker effect.

All in all, the evidence supports a hybrid view that incorporates aspects of distinct theories of labor market dynamics. It emphasizes the usefulness to revise the existing standard theories in order to better understand labor supply transition matrices that, indeed, depict a much more complex picture than usually conceptualized. Results are based on several multinomial logit models controlled for a battery of socio-demographic, macroeconomic and expectational variables.

Appendix A. Consumers survey expectations

Agents' expectations index on "future", *fut*, is based on the following four questions:

Q1) How do you expect the financial position of your household to change over the next 12 months?
Q2) How do you expect the general economic situation in Italy to develop over the next 12 months?
Q3) How do you expect the number of people unemployed in Italy will change over the next 12 months?
Q4) Over the next 12 months, how likely will you be to save any money?

On the basis of the distribution of the various answering options for each question, aggregate balances are calculated for each question. Balances are the difference between positive and negative answering options, measured as percentage points of total answers. More specifically, there are six answering options: very positive (a lot better, increase sharply, etc.); positive (a little better, increase, etc.), neutral (stay the same, etc.), negative (a little worse, decrease, etc.), very negative (a lot worse, fall sharply, etc.) and don't know. The bal-

ances are calculated on the basis of weighted averages according to the formula (European Commission, 2007):

$$\text{Balance} = (2^*\text{PP} + \text{P}) - (\text{M} + 2^*\text{MM}) \tag{1}$$

where PP denotes the percentage of respondents with the most positive answer, P the positive, M the negative and MM the most negative. Hence, neither the neutral answering option (stay the same) nor the uncertain answer (don't know) is taken into account. By construction, the balances are bounded between -200, when all respondents choose the most negative option, and $+200$, when all respondents choose the most positive option. It should be clear that Balance $= 0$ shows that the aggregate belief is neutral, that is pessimists and optimists offset each other.

fut is then calculated by averaging the balances from the four questions above:

$$fut = (\text{BQ1} + \text{BQ2} - \text{BQ3} + \text{BQ4})/4 \tag{2}$$

Where BQi = balance referring to question i, with i = 1, ..., 4.

As it should be clear, agents' expectations on unemployment, *unexp*, is based on question Q3. Its balance is computed via Eq. 1. All survey data are monthly such that it is possible to compute annual (monthly averages) expectations that are contemporaneous to the other variables included in the multinomial estimations of Sect. 6.

Appendix B. Robustness checks

Tables 5 and 6 report the results of the same ML estimations behind Tables 3 and 4 of the main text (Sec. 6). The only difference is that instead of using labor productivity ($y - e$) and savings ($y - c$), here we have used separately their three elements—annual growth rates of GDP (y), Consumption (c) and Employment (e, full-time equivalent units). Tables 5 and 6 are different from one another because of the different expectational variable used. The

Table 5 Average marginal effects of expectations (*unexp*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	−0.19	−0.61	0.33	0.24	−0.60	−0.14	−0.42	−0.95	−1.39	0.69	−0.19	−1.66
		0.01	0.00	0.04	0.07	0.00	0.09	0.00	0.00	0.00	0.00	0.08	0.00
2008	−6.9	−0.41	−0.68	0.58	0.47	−0.79	−0.39	−0.42	−0.63	−2.97	0.55	0.34	−1.66
		0.22	0.06	0.16	0.16	0.03	0.15	0.28	0.09	0.00	0.13	0.22	0.00
2009	0.9	−0.13	−0.46	0.57	0.45	−0.35	0.07	−0.81	−0.71	−2.09	0.41	−0.02	−1.01
		0.06	0.03	0.04	0.03	0.10	0.68	0.00	0.00	0.00	0.06	0.92	0.00
2010	1.4	−0.19	−0.51	0.34	0.30	−0.43	−0.22	−0.40	−0.83	−1.83	0.32	0.11	−0.75
		0.11	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.25	0.00
2011	−1.7	−0.21	−0.75	0.27	0.40	−0.50	0.05	−0.39	−1.12	−1.51	0.47	−0.09	−1.65
		0.11	0.00	0.07	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.45	0.00

Reported values are the average marginal effect (AME) of a ten-point increase in the balance referring to expectations on the "unemployment over the next year" (=*unexp*. See Sect. 4 and Appendix A). AMEs are computed as the average of partial changes over all observations (Bartus 2005). For instance, the value 0.64 shown in the upper right-end-side of the table is the AME of a ten-point increase in *unexp* on the "Out to the Labor force" to "Attached" (OA) transition holding all other variables constant. P values (based on Huber/White/sandwich estimate of variance) are reported in the italicized line below the corresponding AME values. Reference group: permanence in the state "Out of the Labor Force" (=OO)

Table 6 Average marginal effects of expectations (*fut*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	0.40	−0.42	0.23	0.09	−0.51	−0.14	−0.21	−0.66	−0.82	0.51	−0.12	−1.06
		0.78	*0.00*	*0.25*	*0.58*	*0.00*	*0.17*	*0.22*	*0.00*	*0.00*	*0.01*	*0.38*	*0.00*
2008	−6.9	−0.49	−0.45	0.33	0.37	−0.73	−0.36	−0.36	−0.55	−2.73	0.47	0.35	−1.42
		0.15	*0.21*	*0.43*	*0.27*	*0.05*	*0.19*	*0.35*	*0.14*	*0.00*	*0.20*	*0.21*	*0.01*
2009	0.9	−0.14	−0.32	−0.82	0.39	−0.33	0.17	−0.81	−0.28	−1.32	0.37	0.04	0.00
		0.64	*0.22*	*0.84*	*0.15*	*0.23*	*0.42*	*0.01*	*0.33*	*0.00*	*0.20*	*0.85*	*1.00*
2010	1.4	−0.18	−0.49	0.23	0.32	−0.36	−0.20	−0.37	−0.89	−1.83	0.20	0.12	0.74
		0.15	*0.00*	*0.13*	*0.02*	*0.01*	*0.07*	*0.01*	*0.00*	*0.00*	*0.15*	*0.24*	*0.00*
2011	−1.7	0.17	−0.70	0.09	0.24	−0.60	−0.01	−0.37	−0.95	−1.06	0.13	−0.27	−1.70
		0.42	*0.00*	*0.70*	*0.25*	*0.01*	*0.93*	*0.07*	*0.00*	*0.00*	*0.53*	*0.17*	*0.00*

Reported values are average marginal effect (AME) referring to a ten-point increase in the balance referring to expectations on the "economic situation over the next year" (= *fut*. See Sect. 4 and Appendix A). Other details under Table 5

Table 7 Average marginal effects of expectations (*unexp*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	0.07	0.26	−0.13	−0.08	0.30	0.12	0.34	0.48	0.46	−0.22	0.21	0.83
		0.21	*0.00*	*0.13*	*0.17*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.01*	*0.00*	*0.00*
2008	−6.9	0.29	0.41	−0.62	−0.14	0.49	0.11	0.63	0.40	1.33	−0.65	−0.02	0.47
		0.03	*0.00*	*0.02*	*0.26*	*0.00*	*0.29*	*0.00*	*0.00*	*0.00*	*0.00*	*0.81*	*0.01*
2009	0.9	0.24	0.63	0.02	−0.68	0.68	−0.25	1.23	0.36	2.07	−0.56	0.00	0.23
		0.55	*0.09*	*0.97*	*0.06*	*0.08*	*0.37*	*0.01*	*0.36*	*0.00*	*0.15*	*0.98*	*0.64*
2010	1.4	0.23	0.52	−0.12	−0.33	0.16	0.04	0.58	0.45	0.93	0.02	0.18	0.85
		0.00	*0.00*	*0.27*	*0.00*	*0.02*	*0.47*	*0.00*	*0.00*	*0.00*	*0.81*	*0.00*	*0.00*
2011	−1.7	0.11	0.35	−0.08	−0.05	0.06	0.12	0.33	0.73	1.07	−0.35	0.23	1.16
		0.34	*0.00*	*0.50*	*0.63*	*0.54*	*0.12*	*0.00*	*0.00*	*0.00*	*0.00*	*0.03*	*0.00*

Reported values are the average marginal effect (AME) of a ten-point increase in the balance referring to expectations on the "unemployment over the next year" (= *unexp*. See Sect. 4 and Appendix A). AMEs are computed as the average of partial changes over all observations (Bartus 2005). For instance, the value 0.83 shown in the upper right-end-side of the table is the AME of a ten-point increase in *unexp* on the "Out to the Labor force" to "Attached" (OA) transition holding all other variables constant. P values (based on Huber/White/sandwich estimate of variance) are reported in the italicized line below the corresponding AME values. Reference group: permanence in the state "Out of the Labor Force" (=OO)

former deals with the results of ML estimations whereas the expectational variable is *unexp*, the latter displays the results when *fut* is used as expectational variable.

Transitions are computed comparing the corresponding quarters of two consecutive years (Sect. 3). The following Tables 7 and 8 collect the results of the same ML estimations behind, respectively, Tables 5 and 6. The only difference is that instead of using transitions dealing with the first quarter of two consecutive years, here the transitions deal with the second quarter of each year. For instance, 2007 numbers refer to the period 2007.Q2-2008.Q2.

Tables 7 and 8 are different from one another because the former reports the ML results when the expectational variable is *unexp*, the latter the results when the expectational variable is *fut*.

Table 8 Average marginal effects of expectations (*fut*) on labor supply decisions

	GDP	EU	EA	EO	UE	UA	UO	AE	AU	AO	OE	OU	OA
2007	0.5	−0.06	−0.45	0.26	0.20	−0.52	−0.23	−0.60	−0.83	−0.78	0.42	−0.41	−1.42
		0.61	*0.00*	*0.09*	*0.08*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.01*	*0.00*	*0.00*
2008	−6.9	−0.31	−0.76	1.05	0.14	−0.65	−0.08	−0.92	−0.34	−2.21	0.62	0.15	−0.51
		0.18	*0.00*	*0.00*	*0.55*	*0.01*	*0.70*	*0.00*	*0.16*	*0.00*	*0.02*	*0.41*	*0.13*
2009	0.9	−0.14	−0.32	−0.08	0.39	−0.33	0.17	−0.81	−0.28	−1.32	0.37	0.04	0.00
		0.06	*0.22*	*0.84*	*0.15*	*0.23*	*0.42*	*0.01*	*0.33*	*0.00*	*0.20*	*0.85*	*0.99*
2010	1.4	−0.26	−0.67	0.18	0.39	−0.17	0.03	−0.74	−0.63	−1.15	0.04	−0.21	−1.13
		0.00	*0.00*	*0.15*	*0.00*	*0.08*	*0.70*	*0.00*	*0.00*	*0.00*	*0.73*	*0.01*	*0.00*
2011	−1.7	−0.19	−0.52	0.10	0.14	−0.11	−0.17	−0.50	−1.03	−1.57	0.52	−0.26	−1.56
		0.24	*0.00*	*0.55*	*0.34*	*0.12*	*0.12*	*0.00*	*0.00*	*0.00*	*0.00*	*0.07*	*0.00*

Reported values are average marginal effect (AME) referring to a ten-point increase in the balance referring to expectations on the "economic situation over the next year" (= *fut*. See Section 4 and Appendix A). Other details under Table 7

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