Insurance Plan Switching in a Dynamic Model of Health Care Utilization

Abstract

We use a panel of claims data from 1999-2014 to investigate the role of plan switching in a model of health care utilization. Policy holders can choose a single low coverage plan or one of several higher coverage alternatives with varying degrees of managed care. Using dynamic panel data methods, we find that two lags of expenditures are necessary to obtain a good fit of the data. We find that those switching from low to high coverage spend significantly more and those switching from high to low spend significantly less than their comparison non-switching counterparts. While we cannot interpret the coefficients as causal effects, the magnitudes are too large to result from differences in cost sharing provisions alone and are therefore evidence of adverse selection. However, since only a small number (3.64 percent) switch each year, it may be that number of families with usable private information is relatively small.

Introduction

The nature of the equilibrium in the market for group or employer-supplied health insurance (ESI) market in the U.S. is not obvious, despite an abundance of research on the topic. Asymmetric information is one complicating factor. In a static, single-period model, the Rothschild-Stiglitz analysis suggests a separating equilibrium, with low risk types accepting an inefficient, low level of coverage.

In dynamic, multi-period models, firms can adjust premiums using observed claims, and a variety of separating and pooling equilibria may arise (See Dionne et al. (2000) for a survey). The group health insurance market differs from stylized insurance markets in that premiums are not adjusted for experience or for observed demographic changes (such as age). Crocker and Moran (2003) simplify the dynamics by assuming that workers are committed to employers by an exogenous switching cost, K. When K is large enough, worker commitment is complete and firms can offer an efficient pooling contract. For lower levels of K firms must compromise in order to keep low-risk workers from defecting. Most firms offer a variety of contracts of varying levels of cost sharing and of managed care. More work on this subject is needed, since it is difficult to assess policy innovations when we cannot characterize the equilibrium.

The key problem for plan administrators is the management of the risk pools. Premiums, plan characteristics, and the employer's subsidy must be chosen to ensure the viability of each offered plan. As an example, Cutler and Zeckhauser (1998) describe how a fixed (as opposed to a proportional) employer contribution contributed to the collapse of one plan in a menu of

insurance contracts at Harvard University. Cutler, Lincoln, and Zeckhauser (2008) use an 11-year panel of claims data to examine reasons for switching and find evidence of significant switching costs (or inertia) in addition to adverse selection. Handel (2013) uses a natural experiment to measure the effect of inertia on plan choices, concluding that attempts to *reduce* inertia and promote more rational plan choice may exacerbate adverse selection. Tchernis *et al.* (2006) examine plan switching and utilization using a two year panel, finding that those switching to less generous plans tend to have lower expenditures prior to the switch, while those who switch to more generous plans tend to spend more after the switch. Switchers often appear to delay spending until after the switch. Robinson, Gardner and Luft (1993) find that employees tend to switch into higher coverage plans in anticipation of maternity care.

We contribute to the empirical literature by estimating a dynamic panel data model of health care expenditures using a sixteen-year panel from a private benefits firm. We find evidence that switchers from low- to high-coverage plans spend significantly more than those remaining in high coverage and that switchers from high- to low-coverage spend significantly less than those remaining in low coverage. This is true even after controlling for fixed effects, time-varying demographics, and lagged expenditures. These results are consistent with adverse selection. At a disaggregated level, we find that maternity is significantly more like for households switching from the low coverage plan to a high coverage plan and significantly less likely for those switching from high to low coverage.

Data

The data for the empirical work come from the claims records of a medium size insurance company for the years 1999-2014. For the year 2014, our estimation sample covers 8,846 households. Overall, we have 105,240 usable observations from 16,498 households. Although policy holders live throughout the United States, the majority are located in the western United States. The data include detailed medical claim information including diagnosis, treatment, date of claim, service provider, copayment, and charged amounts for the service, along with a variety of other claim-specific information. Basic demographic information on the policy holders is also available: gender, age, income, marital status and family size. We exclude households in which the policy holder (employee) is under 20 or is 65 or over.

Summary statistics for households are given in Table 1. The average age of the policy holder is 48.5. We have a categorical measure of income which we convert to a continuous measure using the midpoint of the salary range and convert to 2010 dollars. Average income is 74.8 thousand dollars. We do not use the income variable in the regressions because the estimators purge fixed income effects, exacerbating measurement error. A majority of employees are male and 84.3 percent are married with an average family size of 3.86.

For our sample, the benefits firm offers five insurance plan options which we summarize as follows:

1. Fee for service (FFS). A high coverage plan with few managed care restrictions. This option was dropped after 2007.
2. Preferred provider organization (PPO). A high coverage plan with moderate restrictions, including lower coverage outside of a preferred network of providers.
3. Exclusive Provider Organization (EPO). A high coverage plan with a higher level of provider restrictions. With the exception of emergency care, the plan has no coverage outside of the network of contracted providers. Introduced in 2007.
4. Low Coverage (LOW). A plan with lower coverage but with few managed care restrictions

The first three plans are similar in the level of cost sharing (coinsurance, deductibles, out-of-pocket maximum, etc.) and are distinguished primarily by managed care restrictions. The consumer's coinsurance rate on most services for the first three plans is 10 percent and is 30 percent for the low coverage plan.

Workers are also offered an HMO option. We drop observations choosing the HMO because we do not have utilization data for these workers[1]. Because of the nature dynamic of the estimators we use, a household will be in the sample if it chooses one of the four plans above for at least 4 consecutive years, and only those years will be included. In addition to these 4 plan option types, we will also group the three "high coverage" plans together (HIGH) to compare them with the LOW plan. In terms of the Rothschild-Stiglitz model, one might think of the first

[1] Switching behavior between HMO and traditional plans suggests that HMO enrollees form a somewhat distinct market. Using all available observations rather than the estimation sample, of 30,281 LOW enrollees, 137 switch to the HMO and 1,487 switch to HIGH. Of 127,351 HIGH enrollees, 634 switch to the HMO and 3,938 switch to LOW. Going the other way, of 12,886 HMO enrollees, 322 switch to LOW and 839 switch to HIGH. There is far more switching between HIGH and LOW than between HMO and traditional plans. Also note that switching out of the HMO is more likely than switching in.

three plans as varieties of the high coverage plan and the fourth as the low coverage plan in the separating equilibrium. The level of managed care is simply a different dimension of product differentiation.

In addition to health insurance, employees can make contributions to flexible spending accounts (FSA). FSA elections are made with pre-tax dollars, escaping income and payroll taxes. FSA balances can be withdrawn to pay only for qualified out-of-pocket medical expenditures, and any unused funds are forfeited to the employer. FSA election amounts average $659 for all employees, $647 for those in HIGH plans and $702 in the LOW plan.

For plan years 1999-2010, in an effort to manage enrollment, new enrollees and those who switched into the LOW plan were required to remain in the plan for two years before switching out. The Affordable Care Act made multi-year contracts illegal, so beginning in 2011 consumers are always free to switch out of the LOW plan. We test the effect of this feature by including a dummy variable for this constraint.

Table 1 also gives sample statistics for health care utilization. Average total expenditures (TotalExp) in constant 2010 dollars is $16,335. Those in the LOW plan spend $13,676, while those in one the HIGH plans spend $17,039, or 24.6 percent more. Table 2 shows average expenditures conditional on switching behavior. Tchernis et al. (2006) use a similar table of conditional means to note two stylized facts. First is that those switching to a higher coverage plan spend more after the switch than those who stayed in the high coverage plan. Second is that those switching to the lower coverage plan spent less than stayers in the low coverage plan in the year before the switch. We follow Tchernis et al. in comparing the spending of switching groups before and after with a comparison group of stayers in the same plan in order to account properly for differences in cost sharing. That is, we compare spending by those who switch from LOW to HIGH with the lagged spending of those who stay LOW and the current spending of those who stay HIGH.

The top left block of statistics (outlined with double lines) gives usage statistics for period t for those households choosing HIGH in two successive periods, t-1 and t. The HIGH/LOW block is utilization in period t for those switching from HIGH to LOW in period t. The HIGH/HIGH group and the LOW/LOW group have average TotalExp similar to the overall averages conditional on HIGH and LOW in Table 1.

In the year prior to switching from LOW to HIGH, the 1,055 such switchers had average utilization of $15,171, compared with $12,597 spent by those remaining in LOW. Post-switch utilization for these same switchers averaged $23,478 compared with $16,957 spent by those who remained in HIGH, a difference of $6,521. Both differences are significant at the 1% level. The 2,771 switchers from HIGH to LOW spent $15,589 prior to the switch, compared with the $16,002 spent by those who remained in HIGH. Post-switch, the switchers spent slightly more than those remaining in LOW ($13,714 vs. $13,671). P-values (two-tailed) for differences of means are 0.5067 and 0.9365, so we cannot reject the null of equal means in these latter two cases.

To summarize, those who switch to higher coverage spent significantly more than their comparison groups both before after the switch, while the spending of those who switched to lower coverage is not significantly different from the comparison groups. We will return to this when we analyze the results from the formal econometric models. If we interpret spending differences as evidence of private information, there appears to be an asymmetry here in that those who switch to higher coverage have stronger signals of changing health status.

Maternity

Maternity is an example of an expenditure that is predictable, sometimes with near certainty for births early in the year. That is, at the time of open enrolment (October 31 in our data), many households are almost certain of a birth, while others believe a birth is highly likely or probable. In a group plan the insurer may know that a covered woman is pregnant before open enrolment, but since premiums do not adjust this information is treated as hidden. We use a broader sample than is used in the estimation and restrict attention to households in which the contract holder is younger than forty-five years of age. Table 4, shows fertility rates for those contract holder under forty-five years old by switching type, similar to Table 2. We have 60,046 qualifying households from 1999-2014 and total count of births of 7,550, giving an overall fertility rate of 12.57 percent. Those remaining in HIGH plans had a slightly higher rate of 13 percent, while those remaining in LOW plans were lower at 10.88 percent. Those who switched from LOW to HIGH had a rate of 35.29 while those switching to lower coverage had a rate of 6.69 percent after the switch. Both of these are significantly different from the fertility rate of their non-switching counterparts.

Tables 5 and 6 compare fertility rates for early-year and late-year births. Because the claims data we use do not include information on births from November 2, 2014 through December 31, 2014, we use data from 1999-2013 only for this comparison. We make the assumption that those households with births from January-June knew they would have child in the subsequent year at the time of open enrolment (October 31), while those later in the year may not have known with certainty even if the pregnancy was planned. We exclude July births because of the uncertainty about testing and timing. We compare fertility rates for switchers in Table 4 with those in Table 5. For early births, the fertility rate of those switching from LOW to HIGH was 37.22 percent, compared with 26.12 percent for late births. The rate for those switching from HIGH to LOW was 4.93 percent for early and 8.24 percent for late births. Both pairwise differences are statistically significant. This is consistent with the finding of Robinson et al. (1993) that families switch plans in anticipation of maternity care.

Model and Estimation

Our econometric model takes advantage of the relatively long panel to measure switching effects while accounting for individual fixed effects and lagged health expenditures. Since we use lags of the dependent variable and further lags as instruments, we require at least four years of data. This means that the first three years for each household are not included in the estimation except as explanatory variables and instruments. Consider the following model:

$$y_{it} = \alpha_i + \rho_1 y_{i,t-1} + \rho_2 y_{i,t-2} + X_{it}\beta + \varepsilon_{it},$$

where y_{it} is the dependent variable for household *i* and time *t*, X_{it} is a vector of explanatory variables, α_i is an individual fixed effect and ε_{it}. The presence of the lagged dependent variable makes standard fixed effects estimators inconsistent. We employ the well-known difference estimator developed by Holtz-Eakin, Newey, and Rosen (1988) and Arellano and Bond (1991) to model dynamics in a panel data setting. That is, we difference the model to purge the fixed effect and instrument for lagged differences using further lags of the dependent variable:

$$\Delta y_{it} = \rho_1 \Delta y_{i,t-1} + \rho_2 \Delta y_{i,t-2} + \Delta X_{it}\beta + \Delta \varepsilon_{it}$$

Specification testing led us to include two lags of the dependent variable for the regression in column 2, though the coefficient on the second lag is small in magnitude. In the dynamic specifications that follow, we used lags 2 and 3 of the dependent variable and first differences of the explanatory variables as instruments. The J-statistic for testing the validity of the over-

identifying restrictions is distributed as chi-squared with 24 degrees of freedom. The value of the statistic ranges between 29 and 30 with p-values between 0.18 and 0.22, so we do not reject the instruments at conventional levels.

To formalize and expand the analysis based on conditional means above, we model the effect of plan choice and plan switching on health care spending. Estimates from the model are shown in Table 7. The first 3 columns use the natural log of TotalExp, while columns 4-6 estimate in levels. The log transformation improves precision at the cost of creating missing observations and the problem of interpreting the coefficients. The log transformation reduces the number of households by 364 and the number of observations by 2,715. The two-part model is often used to address this problem and sample selection issues, with log utilization regressions being interpreted as being conditional on positive utilization. Given the intensity of the debate over the merits of the sample selection and the two-part model in a static setting, it would seem difficult to identify the correct dynamic model. We therefore estimate the model in logs and in levels for comparison.

Column 1 is a regression of log(TotalExp) on two lags, demographic variables, and detailed (static) plan type. Coefficients on the lagged dependent variables are elasticities. While both coefficients are significant at the 1 percent level, the second is much smaller in magnitude. Again, the second lag is included because specification testing reveals that omitting it introduces significant second-order autocorrelation in the residuals. FamilySize raises spending, but at a decreasing rate. LOW coverage insurance is the excluded insurance category. After controlling for the included variables, the three high-coverage plans have similar effects on utilization over LOW. A similar regression grouping the 3 higher coverage plans yields similar results. The variable Constrained equals 1 for those in the second year of enrollment in the LOW plan and who are therefore ineligible to switch plans. The coefficient is significant and suggests that the Constrained households spend 7.5 percent more than unconstrained stayers in the LOW plan, meaning that the restriction seems to matter. However, the coefficient is not significant when we control for plan switching in the other specifications.

Column 2 conditions on switching behavior instead of contemporaneous insurance plan choice. The excluded category is LOW in the current and past year, compared with HIGH in both years, with switching from LOW to HIGH, and switching from HIGH to LOW. Coefficients on the other variables are almost unchanged from column 1. Those remaining in

HIGH spend 11.7 percent more than those remaining in LOW, while those switching up spend 34.1 percent more and those switching down spend 11 percent less.

Column 3 conditions on switching of detailed plan type. Coefficients for these 16 switching combinations are summarized in Table 8 to save space. The coefficients on the main diagonal are for those choosing FFS, PPO, or EPO in *both* periods. These spent 5.1 percent, 10.8 percent, and 13.9 percent more than those staying in LOW, though the coefficient for FFS is not statistically significant from zero. Those who switch from LOW to FFS spent 65.8 percent more than those who remained, while those switching from LOW to PPO and EPO spend 27.3 percent and 41.1 percent more, respectively. Those switching into LOW coverage spend less, with those switching from the highly-managed EPO plan spending 17 percent less and those switching from PPO to LOW spending 8.4 percent less.

Switchers from any plan into the FFS show the largest effects. The FFS plan has the highest premium and the lowest managed care restrictions. Households willing to pay the extra premium for higher coverage (from LOW) or for lower managed care (from PPO or EPO) have significantly higher anticipated expenditures.

Clearly we cannot interpret these coefficients as causal effects, since plan choices are endogenous; however, the magnitudes suggest that switching is related to expected expenditures even after controlling for household-level fixed effects and for previous years' expenditures. Differences in average utilization can be attributed to variability in cost sharing, in managed care, or in average health status. Estimated magnitudes are large enough that they cannot be explained changes in coinsurance rates.

Columns 4-6 estimate the model using the level of TotalExp. Sample size is larger by 2.7 percent in total observations and by 2.3 percent in the number of included households. Patterns are similar, though magnitudes of the effects are different. The column 5 coefficients indicate that switchers from LOW to HIGH spend $5,642 more than those staying in LOW, which is $3,841 more than those staying in HIGH. This latter number is the direct comparison with $6,521 estimate using conditional means in Table 2. For those switching from HIGH to LOW, switchers spent $1,254 less than stayers in LOW, in contrast with an increase of $43 from Table 2. Controlling for demographics, fixed effects, and lagged expenditures gives significant estimates of selection effects for those switching from HIGH to LOW, in contrast with the conditional means in Table 2. Column 6 conditions on switching by detailed plan type, as with

those from Column 6, though here the coefficients are dollars instead of percentage changes. Coefficients for these 16 switching combinations are summarized in Table 9.

Robustness Checks

Table 10 contains estimates from two alternative models. The first is the standard fixed effects model (columns 1-3) of log(TotalExp) to compare with Columns 1-3 of Table 7. No lags of the dependent variable are included. Column 1 is the model with detailed insurance plan dummies. The coefficients are similar. Column 2 shows the model with switching. As before, the estimated switching effects by detailed plan type in Columns 3 and 6 are summarized separately in Tables 11 and 12. Compared with column 2 of Table 7, the switching coefficients are much larger in magnitude, suggesting that some of the effect the lagged dependent variables is being loaded onto the switching variables. Columns 4-6 estimate the model in logs with missing values (due to taking the log of zero) set to zero.

Conclusion

We find significant evidence that households who switch are different from those who do not, spending more when switching to higher coverage plans and less when switching to lower coverage plans. This is true even after controlling for family fixed effects, time-varying demographics, and lagged expenditures, though the estimated magnitudes implied by the comparison of conditional means in Tables 2 and 3 are different from those in the formal econometric models. An insurer observes all of the controls used in our models in addition to detailed claims data, though in a group setting the insurer will not use this information in setting premia. Cardon and Hendel (2001) find evidence of adverse selection in a static model only when demographics are omitted from the model. Omitting demographics is analogous to the selection effects inferred from the conditional means in Table 2. In contrast, we use panel data used to estimate dynamic model. One interpretation of the results is that much of the asymmetric information that might destabilize insurance pools appears to be had by a small number of plan switchers with information precise enough to overcome inertia or other switching costs.

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Table 1: Sample Statistics

All

Variable	N	Mean	Std. Dev.	Min	Max
Age	105,240	48.53	9.93	20.00	64.00
Male	105,240	0.71	0.45	0.00	1.00
Married	105,240	0.84	0.36	0.00	1.00
Familysize	105,240	3.86	2.15	0.00	21.00
Income	105,240	74.81	33.45	0.00	172.75
Total Exp	105,240	16,335	34,007	0	2,116,750
FSAamt (1,000s)	105,240	0.66	1.10	0.00	6.00

High Coverage

Variable	N	Mean	Std. Dev.	Min	Max
Age	83,188	49.10	9.83	20.00	64.00
Male	83,188	0.71	0.45	0.00	1.00
Married	83,188	0.83	0.37	0.00	1.00
Familysize	83,188	3.77	2.15	0.00	21.00
Income	83,188	75.86	33.86	0.00	172.75
Total Exp	83,188	17,039	35,695	0	2,116,750
FSAamt (1,000s)	83,188	0.65	1.10	0.00	6.00

Low Coverage

Variable	N	Mean	Std. Dev.	Min	Max
Age	22,052	46.37	10.00	20.00	64.00
Male	22,052	0.71	0.45	0.00	1.00
Married	22,052	0.88	0.33	0.00	1.00
Familysize	22,052	4.19	2.12	1.00	13.00
Income	22,052	70.82	31.55	0.00	172.75
Total Exp	22,052	13,676	26,530	0	1,063,822
FSAamt (1,000s)	22,052	0.70	1.10	0.00	6.00

Table 2: Means of TotalExp and LagTotalExp

			Period t Plan HIGH	LOW	Total
Period t-1 Plan	HIGH	*Mean Total Exp*	16,956.56	13,713.66	16,850.73
		St Dev.	(34,981)	(29,206)	(34,812)
		Mean LagTotalExp	16,002.18	15,589.47	15,988.71
		St. Dev.	(32,397)	(24,966)	(32,181)
		Count	82,133	2,771	84,904
	LOW	*Mean Total Exp*	23,477.84	13,670.70	14,179.48
		St Dev.	(71,857)	(26,123)	(30,321)
		Mean LagTotalExp	15,170.53	12,596.95	12,730.46
		St. Dev.	(35,115)	(22,583)	(23,404)
		Count	1,055.00	19,281.00	20,336.00
	Total	*Mean Total Exp*	17,039.27	13,676.10	16,334.55
		St. Dev.	(35,695)	(26,530)	(34,007)
		Mean LagTotalExp	15,991.64	12,972.98	15,359.11
		St. Dev.	(32,432)	(22,917)	(30,708)
		Count	83,188	22,052	105,240

Table 3: Means, Standard Deviations and Counts of TotalExp

By Detailed Plan Type: FFS, PPO, EPO, LOW

Period t-1 Plan		Period t Plan: FFS	PPO	EPO	LOW	Total
FFS	*Mean Total Exp*	13,173.76	16,587.70	18,235.51	10,117.66	13,748.33
	St Dev	(28,192)	(36,718)	(16,457)	(9,439)	(29,665)
	Mean LagTotalExp	12,690	14,808	7,329	11,647	13024.22
	St. Dev.	(25,010)	(34,208)	(2,111)	(7,351)	(26,646)
	Count	1,168	255	6	22	1,451
PPO	*Mean Total Exp*	12,473.48	16,916.26	16,852.73	13,682.99	16,826.78
	St Dev	(12,196)	(35,928)	(22,660)	(27,971)	(35,404)
	Mean LagTotalExp	13,371.97	15,951.19	16,030.25	15,386.23	15,937.69
	St. Dev.	(18,534)	(33,415)	(21,384)	(26,805)	(32,948)
	Count	25	68,761	2,228	1,941	72,955
EPO	*Mean Total Exp*	19,644.98	27,154.93	17,510.31	13,885.25	17,445.97
	St Dev	*(4,413)*	(74,916)	(29,052)	(32,316)	(31,105)
	Mean LagTotalExp	14,833.30	22,206.60	16,667.78	16,185.06	16,753.03
	St. Dev.	*(5,388)*	(48,400)	(26,826)	(20,249)	(27,056)
	Count	3	233	9,454	808	10,498
LOW	*Mean Total Exp*	19,596.58	20,146.03	27,867.74	13,670.70	14,179.48
	St Dev	(26,714)	(34,722)	(101,765)	(26,123)	(30,321)
	Mean LagTotalExp	7,519.29	15,216.00	15,296.46	12,596.95	12,730.46
	St. Dev.	(6,869)	(34,589)	(36,199)	(22,583)	(23,404)
	Count	11	588	456	19,281	20,336
Total	*Mean Total Exp*	13,233.88	16,976.41	17,778.94	13,676.10	16,334.55
	St Dev	(27,901)	(36,126)	(33,815)	(26,530)	(34,007)
	Mean LagTotalExp	12,662.42	15,961.70	16,494.71	12,972.98	15,359.11
	St. Dev.	(24,755)	(33,490)	(26,331)	(22,917)	(30,708)
	Count	1,207	69,837	12,144	22,052	105,240

Table 4: Maternity by Switch Type

Period t-1 Plan			Period t Plan HIGH	Period t Plan LOW	Total
HIGH		*Count*	43,362	2,182	45,544
		Newborns	5635	146	5781
		Percent	0.1300	0.0669	0.1269
		Std Error	0.0016	0.0054	0.0016
LOW		*Count*	785	13,717	14,502
		Newborns	277	1492	1769
		Percent	0.3529	0.1088	0.1220
		Std Error	0.0171	0.0027	0.0027
Total		*Count*	44,147	15,899	60,046
		Newborns	5912	1638	7550
		Percent	0.1339	0.1030	0.1257
		Std Error	0.0016	0.0024	0.0014

Sample is all households with employee Age<45 for years 1999-2014.

Table 5: Maternity by Switch Type

Births January-June, 1999-2013

Period t-1 Plan		Period t Plan: HIGH	Period t Plan: LOW	Total
HIGH	*Count*	20,442	953	21,395
	Newborns	2,818	47	2865
	Percent	0.1379	0.0493	0.1339
	Std Error	0.0024	0.0070	0.0023
LOW	*Count*	360	5,527	5,887
	Newborns	134	624	758
	Percent	0.3722	0.1129	0.1288
	Std Error	0.0255	0.0043	0.0044
Total	*Count*	20,802	6,480	27,282
	Newborns	2952	671	3623
	Percent	0.1419	0.1035	0.1328
	Std Error	0.0024	0.0038	0.0021

Sample is all households with employee Age<45 for years 1999-2013, January-June.

Table 6: Maternity by Switch Type

Births July-December, 1999-2013

Period t-1 Plan		Period t Plan: HIGH	Period t Plan: LOW	Total
HIGH	*Count*	17,223	765	17,988
	Newborns	2025	63	2088
	Percent	0.1176	0.0824	0.1161
	Std Error	0.0025	0.0099	0.0024
LOW	*Count*	268	5,000	5,268
	Newborns	70	557	627
	Percent	0.2612	0.1114	0.1190
	Std Error	0.0269	0.0044	0.0045
Total	*Count*	17,491	5,765	23,256
	Newborns	2095	620	2715
	Percent	0.1198	0.1075	0.1167
	Std Error	0.0025	0.0041	0.0021

Sample is all households with employee Age<45 for years 1999-2013, July-December.

Table 7: Dynamic Regressions

VARIABLES	(1) log(TotalExp)	(2) log(TotalExp)	(3) log(TotalExp)	(4) TotalExp	(5) TotalExp	(6) TotalExp
log(LagTotalExp)	0.0947***	0.0941***	0.0944***			
	(0.00664)	(0.00662)	(0.00663)			
log(Lag^{2}TotalExp)	0.0146***	0.0143***	0.0144***			
	(0.00445)	(0.00445)	(0.00445)			
LagTotalExp				0.0591***	0.0587***	0.0588***
				(0.0157)	(0.0156)	(0.0156)
Lag^{2}TotalExp				0.000847	0.000683	0.000676
				(0.00679)	(0.00678)	(0.00678)
FamilySize	0.551***	0.550***	0.550***	6,917***	6,894***	6,904***
	(0.0221)	(0.0221)	(0.0221)	(779.2)	(779.3)	(779.2)
FamilySize^2	-0.0219***	-0.0219***	-0.0219***	-155.7*	-154.9*	-156.5*
	(0.00211)	(0.00211)	(0.00211)	(90.06)	(90.10)	(90.05)
FFS	0.348***			2,992		
	(0.0736)			(2,407)		
PPO	0.270***			3,967***		
	(0.0216)			(771.4)		
EPO	0.292***			4,189***		
	(0.0239)			(1,208)		
-HIGH-		0.117***			1,801***	
		(0.0247)			(655.6)	
LOW to HIGH		0.341***			5,642***	
		(0.0359)			(1,433)	
HIGH to LOW		-0.110***			-1,219	
		(0.0232)			(799.7)	
Constrained	0.0749**	0.0288	0.0333	322.6	-132.8	-131.2
	(0.0334)	(0.0352)	(0.0354)	(705.7)	(760.3)	(757.2)
FSAamt_1000	0.108***	0.107***	0.107***	2,070***	2,057***	2,054***
	(0.00539)	(0.00537)	(0.00538)	(212.8)	(212.3)	(212.6)
Constant	5.559***	5.827***	5.709***	-21,923***	-20,035***	-19,773***
	(0.0934)	(0.0947)	(0.0929)	(1,849)	(1,746)	(1,756)
Observations	102,525	102,525	102,525	105,240	105,240	105,240
Number of memberid	16,134	16,134	16,134	16,498	16,498	16,498
Chi-Square (24) (p-value)	30.30 (0.18)	30.07 (0.18)	30.15 (0.18)	29.14 (0.22)	29.07 (0.22)	29.13 (0.22)

The models in columns 3 and 6 include coefficients for switching effects by detailed plan type. See Tables 8 and 9.
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Dynamic Panel Switching Effects

Period t-1 Plan	Period t Plan: FFS	PPO	EPO	LOW
FFS	0.0513	0.0382	0.177	-0.125
PPO	0.482***	0.108***	0.0993***	-0.0843***
EPO	0.953**	0.234***	0.139***	-0.169***
LOW	0.658***	0.273***	0.411***	0

Coefficient is % increase from Row Plan to Column Plan.
LOW, LOW is the reference category.
*** p<0.01, ** p<0.05, *
p<0.1

Table 9: Dynamic Panel Switching Effects

Period t-1 Plan	Period t Plan: FFS	PPO	EPO	LOW
FFS	-1,451	439.2	1,777	-1,845
PPO	2,644	1,538**	1,530*	-1,029
EPO	8,232	6,218**	2,478***	-1,547
LOW	12,523*	4,176***	7,331**	0

Coefficient is % increase from Row Plan to Column Plan.
LOW, LOW is the reference category.
*** p<0.01, ** p<0.05, *
p<0.1

Table 10: Robustness Checks

VARIABLES	(1) log(TotalExp)	(2) log(TotalExp)	(3) log(TotalExp)	(4) log(TotalExp_0)	(5) log(TotalExp_0)	(6) log(TotalExp_0)
log(LagTotalExp_0)				0.137***	0.137***	0.137***
				(0.00977)	(0.00976)	(0.00976)
log(Lag^2TotalExp_0)				0.0212***	0.0211***	0.0212***
				(0.00557)	(0.00558)	(0.00558)
FamilySize	0.544***	0.469***	0.471***	0.601***	0.600***	0.600***
	(0.00812)	(0.00854)	(0.00854)	(0.0254)	(0.0254)	(0.0254)
$FamilySize^2$	-0.0321***	-0.0268***	-0.0269***	-0.0255***	-0.0255***	-0.0256***
	(0.000787)	(0.000823)	(0.000822)	(0.00235)	(0.00235)	(0.00235)
FFS	0.312***			0.351***		
	(0.0336)			(0.0817)		
PPO	0.293***			0.280***		
	(0.0123)			(0.0246)		
EPO	0.199***			0.323***		
	(0.0147)			(0.0270)		
-HIGH-		0.199***			0.115***	
		(0.0138)			(0.0280)	
LOW to HIGH		0.425***			0.368***	
		(0.0268)			(0.0421)	
HIGH to LOW		-0.0813***			-0.120***	
		(0.0178)			(0.0259)	
Constrained	0.0718**	-0.0249	-0.0164	0.0190	-0.0314	-0.0303
	(0.0280)	(0.0266)	(0.0266)	(0.0393)	(0.0408)	(0.0411)
FSAamt_1000	0.144***	0.127***	0.127***	0.110***	0.110***	0.109***
	(0.00392)	(0.00388)	(0.00388)	(0.00562)	(0.00561)	(0.00562)
Constant	5.863***	7.765***	7.768***	5.465***	5.211***	5.620***
	(0.0249)	(0.0226)	(0.0226)	(0.129)	(0.124)	(0.128)
Observations	177,398	148,542	148,542	105,240	105,240	105,240
R-squared	0.182	0.145	0.146			
Number of memberid	28,372	23,375	23,375	16,498	16,498	16,498
Chi-Square (24) (p-value)				29 (0.22)	29.01 (0.22)	28.96 (0.22)

The models in columns 3 and 6 include coefficients for switching effects by detailed plan type. See Tables 11 and 12.
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 11: Dynamic Panel Switching Effects

Period t-1 Plan	Period t Plan: FFS	PPO	EPO	LOW
FFS	0.171***	0.172***	0.0700	-0.109
PPO	0.450***	0.225***	0.145***	-0.0507**
EPO	0.594	0.338***	0.132***	-0.149***
LOW	0.699***	0.370***	0.476***	0

Coefficient is % increase from Row Plan to Column Plan.
LOW, LOW is the reference category.
*** p<0.01, ** p<0.05, * p<0.1

Table 12: Dynamic Panel Switching Effects

Period t-1 Plan	Period t Plan: FFS	PPO	EPO	LOW
FFS	0.125	0.0950	0.229	-0.150
PPO	0.221	0.0969***	0.127***	-0.107***
EPO	0.972**	0.269***	0.151***	-0.149***
LOW	0.694***	0.297***	0.452***	0

Coefficient is % increase from Row Plan to Column Plan.
LOW, LOW is the reference category.
*** p<0.01, ** p<0.05, * p<0.1