Online Appendix

A Appendix to the empirical models

A.1 Robustness

Table A.I: Baseline regressions: time clustered standard errors

	Dependent variable: Interest rate			
	(1)	(2)	(3)	(4)
Explanatory variables				
Liftoff	-0.195	-0.229**	-0.173**	-0.169***
	(-1.67)	(-3.26)	(-3.69)	(-6.62)
Additional controls	✓	✓	✓	✓
Controls				
Loan Characteristics	✓	✓	✓	✓
Borrower Characteristics	✓	✓	✓	✓
Main Effects				
Weekday FE		✓	✓	✓
Hour FE	✓	✓	✓	✓
Window size	±3d	±7d	±14d	LONG
Cluster	TIME	TIME	TIME	TIME
Adj. R^2	0.971	0.972	0.972	0.970
Observations	445	987	1,818	4,257

Notes. The dependent variable is the interest rate, in percentage points, posted on Prosper. The variable Liftoff_t is a dummy that equals 1 after the liftoff announcement on December 16, 2015. The borrower characteristics controls include her debt-to-income ratio, income group, prosper credit rating, and employment status. The loan characteristics include the loan size, maturity, purpose, and verification stage. We also include weekday fixed effects, hour-of-the-day fixed effects, and additional covariates, such as cross products of loan-borrower characteristics and the liftoff dummy, to validate the robustness of our findings. We run the regression for different window sizes (±3-day, ±7-day, ±14-day, LONG), including in the main sample over the period November 20, 2015 to January 20, 2016. We drop the weekday dummies in the ±3-day regression because of multicollinearity. t statistics are shown in parentheses. We cluster the standard error at time level. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.II: Baseline regressions: all results

	Dependent variable: Interest rate			
	(1)	(2)	(3)	(4)
Liftoff	-0.195*	-0.229***	-0.173***	-0.169***
	(-1.74)	(-3.10)	(-3.17)	(-4.36)
Loan size	0.115	0.0242	0.0105	-0.000285
	(0.98)	(0.31)	(0.19)	(-0.01)
Maturity	-0.143	-0.165**	-0.0297	0.0247
	(-1.23)	(-2.03)	(-0.51)	(0.66)
Debt-to-income ratio	0.0107**	0.00625*	0.00697***	0.00528***
	(2.02)	(1.79)	(2.77)	(3.23)
Loantype=Consumption	0.177	0.0840	-0.0995	-0.155
	(0.43)	(0.29)	(-0.49)	(-1.19)
Loantype=Debt Consolidation	0.201	0.0158	-0.141	-0.108
	(0.55)	(0.06)	(-0.75)	(-0.90)
Loantype=Other	0.275	0.115	-0.120	-0.0872
	(0.67)	(0.38)	(-0.58)	(-0.66)
Loantype=Special Occasion	0.865*	0.362	0.00997	0.00536
	(1.84)	(1.11)	(0.04)	(0.04)
Rating=AA	-2.372***	-2.317***	-2.359***	-2.257***
	(-10.14)	(-15.06)	(-20.72)	(-31.43)
Rating=B	3.044***	3.103***	2.993***	2.986***
	(17.58)	(26.56)	(34.38)	(54.19)
Rating=C	6.666***	6.754***	6.759***	6.794***
	(39.66)	(59.23)	(80.12)	(128.06)
Rating=D	10.99***	11.18***	11.12***	11.35***
	(56.23)	(87.04)	(116.44)	(187.81)
Rating=E	15.90***	16.02***	15.83***	15.93***
	(75.01)	(112.04)	(151.90)	(228.04)
Rating=HR	20.58***	20.69***	20.80***	20.86***
	(79.07)	(124.36)	(168.09)	(242.76)
Verification=2	-0.0384	-0.194*	0.0375	0.0431
	(-0.23)	(-1.75)	(0.46)	(0.80)
Verification=3	-0.0339	-0.134	-0.00272	0.0435
	(-0.21)	(-1.29)	(-0.04)	(0.89)
Self-employed	0.433**	0.345***	0.225***	0.229***
	(2.57)	(2.96)	(2.61)	(4.11)
UnEmployed	-0.253	-0.0695	-0.0603	0.0167
	(-1.37)	(-0.61)	(-0.74)	(0.32)
Income=100000+	-0.726**	-0.254	-0.220	-0.0909
	(-2.02)	(-1.10)	(-1.25)	(-0.78)
Income=25000 − 49999	-0.725**	-0.209	-0.170	-0.0902
	(-2.36)	(-1.11)	(-1.17)	(-0.92)
Income=50000 − 74999	-0.816**	-0.341*	-0.177	-0.122
	(-2.46)	(-1.68)	(-1.13)	(-1.16)
Income=75000 − 99999	-0.643*	-0.109	-0.0435	-0.0518
	(-1.80)	(-0.48)	(-0.25)	(-0.45)
Weekday FE		✓	✓	✓
Hour FE	✓	✓	✓	✓
Window size	±3d	±7d	±14d	LONG
Adj. R^2	0.971	0.972	0.972	0.970
Observations	445	987	1,818	4,257

Notes. The full regression table as Table II in the main text. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.III: One-sample t test: before/after liftoff interest rate differences

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Δ Int-Rate	273	-0.266	0.120	1.987	-0.503	-0.029

mean = mean(Δ Int-Rate)	t = -2.213
H0: mean = 0	degrees of freedom = 272

Ha: mean < 0	Ha: mean $\neq 0$	Ha: mean > 0
$\Pr(T < t) = 0.014$	$\Pr(\|T\| > \|t\|) = 0.028$	$\Pr(T > t) = 0.986$

Notes. We focus on the LONG window size, using the main sample from the Prosper dataset over the period November 20, 2015 to January 20, 2016. To conduct the sample t test, we measure the difference in regression coefficients by regressing the interest rate on a large set of dummies with all possible combinations of borrower characteristics: loan size, loan type, borrower income, debt-to-income ratio, credit rating, employment status, maturity, and a liftoff dummy. After the regression, we take the difference of the coefficients for the dummies that share all characteristics before and after liftoff. We then test whether the sample mean of the differences is smaller than 0. It is significant at the 5% level.

Table A.IV: Robustness: regressions with sub-samples

	Dependent variable: interest rate					
	(1)	(2)	(3)	(4)	(5)	(6)
	High CR	Middle CR	Low CR	Employed	Self-emp	Unemp
Explanatory variables						
Liftoff	-0.0854	-0.415***	-0.393*	-0.368***	0.143	-0.427*
	(-0.95)	(-3.56)	(-1.71)	(-3.60)	(0.46)	(-1.69)
ES=Self-employed	-0.206	0.136	-0.686**			
	(-1.61)	(0.89)	(-2.10)			
ES=Unemployed	0.932***	0.848***	0.275			
	(4.82)	(5.26)	(0.96)			
CR=Middle				5.621***	5.737***	5.979***
				(52.30)	(11.88)	(21.61)
CR=Low				14.980***	14.698***	15.070***
				(123.24)	(29.63)	(47.70)
Controls						
Loan Characteristics	✓	✓	✓	✓	✓	✓
Borrower Characteristics	✓	✓	✓	✓	✓	✓
Main Effects						
Weekday FE	✓	✓	✓	✓	✓	✓
Hour FE	✓	✓	✓	✓	✓	✓
Window size	LONG	LONG	LONG	LONG	LONG	LONG
Average Int.Rate.	4.240	11.91	60.98	15.55	32.41	13.56
Observations	1,198	1,825	1,234	3,166	520	571
Adj. R^2	0.047	0.027	0.148	0.843	0.775	0.832

Notes. We focus on the LONG window size, using the main sample from the Prosper dataset over the period November 20, 2015 to January 20, 2016. The interest rate is regressed on Fed liftoff, borrower characteristics, and time dummies. Regressions are performed separately on subsamples that are divided according to credit rating ("CR", or "Credit Bin" as regressors) or employment status (ES). "High CR" includes Prosper ratings AA and A, "Middle CR" includes B and C, and "Low CR" includes the rest. We have four employment statuses in the study: Employed (reported as "Full-time" or "Employed"), Self-employed, and Unemployed (reported as "Other"). t statistics are in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.V: Robustness: baseline regressions for the Jan. 27, 2016 FOMC meeting

	Dependent variable: Interest rate		
	(1)	(2)	(3)
Explanatory variables			
Post-Announcement	-0.105	0.002	0.025
	(-0.54)	(0.08)	(0.72)
Controls			
Loan Characteristics		✓	✓
Borrower Characteristics		✓	✓
Main Effects			
Weekday FE	✓		✓
Hour FE	✓		✓
Sample	PLACEBO	PLACEBO	PLACEBO
Adj. R^2	0.001	0.969	0.969
Observations	6,589	6,589	6,589

Notes. We focus on the placebo sample from the Prosper dataset over the period November 20, 2015 to February 26, 2016. The dependent variable is the interest rate, in percentage points, posted on the P2P lending platform. The variable Post-Announcement$_t$ is a dummy that is equal to 1 after the FOMC's decision on January 27, 2016 to leave the target federal funds rate range unchanged. The characteristic controls include the borrower's debt-to-income ratio, income group, Prosper credit score, and employment status. The loan characteristics include the loan size, maturity, purpose, and verification stage. We also include weekday fixed effects, hour-of-the-day fixed effects, and additional covariates, such as cross products of loan-borrower characteristics and the liftoff dummy. We notice that the January 27, 2016 announcement has a positive, but statistically insignificant impact on the P2P lending rate. t statistics are shown in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.VI: Robustness: baseline regressions for two interest rate increase decisions

	Dependent variable: Interest rate			
	(1)	(2)	(3)	(4)
	Joint effect of two FOMC meetings			
Policy rate increase	-0.0530	-0.0505	0.0623	0.0598*
	(-0.34)	(-1.03)	(0.81)	(1.90)
Adj. R^2	0.972	0.972	0.973	0.975
Observations	922	1751	3352	6532
	The effect on December 14, 2016			
Policy rate increase	-0.0640	-0.0332	-0.00376	0.0249
	(-0.41)	(-0.28)	(-0.04)	(0.31)
Adj. R^2	0.974	0.977	0.979	0.979
Observations	456	850	1498	3424
	The effect on March 15, 2017			
Policy rate increase	0.0197	0.0313	0.124	0.138***
	(0.08)	(0.44)	(1.32)	(4.89)
Adj. R^2	0.967	0.967	0.968	0.970
Observations	466	901	1854	3108
Additional controls	✓	✓	✓	✓
Controls				
Loan Characteristics	✓	✓	✓	✓
Borrower Characteristics	✓	✓	✓	✓
Main Effects				
Weekday FE		✓	✓	✓
Hour FE	✓	✓	✓	✓
Window size	±3d	±7d	±14d	±30d

Notes. The dependent variable is the interest rate, in percentage points, posted on Prosper. The variable Policy rate increase$_t$ is a dummy that equals 1 after the press conference of the interest rate decision. The two policy rate increases are announced on December 14, 2016 and March 15, 2017. The borrower characteristics controls include debt-to-income ratio, income group, prosper credit rating, and employment status. The loan characteristics include the loan size and maturity. We also include weekday fixed effects, hour-of-the-day fixed effects, and additional covariates, such as cross products of loan-borrower characteristics and the liftoff dummy, to validate the robustness of our findings. We run the regression for different window sizes (±3-day, ±7-day, ±14-day, ±30-day). We drop the weekday dummies in the ±3-day regression because of multicollinearity. t statistics are shown in parentheses. The results are robust to standard error clustering at time or borrower location. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.VII: Robustness: control changes in risk appetite

	Dependent variable: Interest rate	
	(1)	(2)
Explanatory variables		
Liftoff	-0.174***	-1.933***
	(-4.38)	(-2.92)
$1\{EMP, High\}$		-9.630***
		(-17.52)
$1\{EMP, High\}\times$Liftoff		1.658**
		(2.14)
VRP	-0.0264	-0.0203
	(-1.21)	(-0.03)
Controls		
Loan Characteristics	✓	✓
Borrower Characteristics	✓	✓
Main Effects		
Weekday FE	✓	✓
Hour FE	✓	✓
Window size	LONG	±7d
Adj. R^2	0.971	0.674
Observations	4,257	355

Notes. In column (1) we focus on the LONG window size, using the main sample from the Prosper dataset over the period November 20, 2015 to January 20, 2016. Column (2) uses a ±7-day window centered around the liftoff date. The interest rate is regressed on the liftoff dummy and variance risk premium (VRP), a model-free measure of investors' risk appetite proposed in **?**. It is simply the difference between risk-neutral expected future volatility and the ex-post realized return volatility, measured by the VIX index from the Chicago Board of Options Exchange (CBOE) and the 5-min. realized variance measure from the Oxford-Man Institute of Quantitative Finance Realized Library. We also include borrower riskiness (Employment and Credit Rating), and the interaction between riskiness and the liftoff dummy. Additional controls include loan characteristics, borrower characteristics, and time dummies. The empirical specification treats the borrower with high credit rating and employment as the focus, and benchmarks their interest rate variation with unemployed borrowers who receive a low credit rating from Prosper. t statistics are shown in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.VIII: Robustness: regressions with slope of the real yield curve

	Dependent variable: interest rate	
	(1)	(2)
Explanatory variables		
Liftoff	-0.490***	-0.451**
	(-2.59)	(-2.45)
$1\{EMP, High\}$	-8.298***	-8.801***
	(-28.46)	(-47.25)
$\text{Slope}^{(5)}$	-2.026***	
	(-3.00)	
$1\{EMP, High\} \times \text{Slope}^{(5)}$	1.781**	
	(2.15)	
$\text{Slope}^{(10)}$		-1.816***
		(-3.02)
$1\{EMP, High\} \times \text{Slope}^{(10)}$		1.749***
		(2.19)
Controls		
Loan Characteristics	✓	✓
Borrower Characteristics	✓	✓
Main Effects		
Weekday FE	✓	✓
Hour FE	✓	✓
Window size	LONG	LONG
Observations	4,257	4,257
Adj. R^2	0.390	0.390

Notes. We focus on the LONG window size, using the main sample from the Prosper dataset over the period November 20, 2015 to January 20, 2016. The interest rate is regressed on the slope of real yield curve, borrower riskiness (Employment and Credit Rating), and their interaction terms. Additional controls include loan characteristics, borrower characteristics, time dummies and the liftoff dummy. The empirical specification treats the borrowers with high credit ratings and employment as the focus, and benchmarks their interest rate variation with unemployed borrowers who receive low credit ratings from Prosper. The slope of real yield curve $\text{Slope}^{(5)}$ is the difference of 5-year TIPS bond yield and 1-month real interest rate at each day. We also include another variable $\text{Slope}^{(10)}$ that takes the difference between 10-year and 1-month real interest rate. The TIPS yield is taken from the Federal Reserve Board website. The real interest rate is computed with 1-month nominal yield, and inflation expectation is calculated using the Billion Price Project inflation index series from FRED. t statistics are in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.2 Evidence from another P2P lender: LendingClub

Table A.IX: Robustness: before/after regressions using LendingClub data

	Dependent variable: Interest rate					
	(1)	(2)	(3)	(4)	(5)	(6)
Explanatory variables						
Liftoff	-0.158***	-0.210***	-0.169***	-0.363**	-0.335**	-0.279*
	(-3.55)	(-5.55)	(-4.33)	(-2.33)	(-2.34)	(-1.93)
$1\{EMP, High\}$				-2.670***	-1.263***	-1.200**
				(-21.14)	(-2.70)	(-2.57)
$1\{EMP, High\}\times$Liftoff				0.389**	0.289*	0.262*
				(2.26)	(1.82)	(1.65)
Controls						
Loan Characteristics		✓	✓		✓	✓
Borrower Characteristics		✓	✓		✓	✓
Main Effects						
Weekday FE	✓		✓	✓		✓
Window size	LONG	LONG	LONG	±7d	±7d	±7d
Adj. R^2	0.002	0.231	0.232	0.058	0.196	0.198
Observations	37,717	37,717	37,717	13,880	13,880	13,880

Notes. These regressions use the daily loan-origination reports of LendingClub, another major P2P lender in the US, to the US Securities and Exchange Commission. The first three columns focus on a LONG window size, using a sample over the period November 20, 2015 to January 20, 2016. Columns (4)–(6) focus on ±7-day windows centered around the liftoff date. The estimation setting is the same as in the Prosper results. The dependent variable is the interest rate, in percentage points. The variable Liftoff_t is a dummy that equals 1 after the liftoff announcement on December 16, 2015. The borrower characteristics controls include variables such as the debt-to-income ratio, income group, prosper credit rating, and employment status. The loan characteristics include the loan size, maturity, purpose, and verification stage. We also include weekday fixed effects here, but not the intraday hourly dummy because of the daily data frequency. t statistics are shown in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.3 State level evidence

In this section, we exploit state-level heterogeneity in unemployment rates to deepen our understanding of the interest rate dynamics. Most importantly, we demonstrate that the employment outlook is an important determinant of interest rates in the P2P segment of consumer credit after controlling for all available borrower-loan characteristics. This result

points to a strong credit risk channel, given the importance of future employment risk as determinant of perceived credit risk, especially for high credit risk borrowers.

Unemployment suggests to be particularly important in our market because many borrowers have uncertain employment statuses and may be regarded as risky. Additionally, all loans are uncollateralized, so default risk is almost entirely driven by borrowers' inability to make payments. We define a new variable $1\{\text{Unemp}\}_i$, which takes a value of 1 if the borrower for loan i resides in a state with an unemployment rate higher than the national average (i.e. $> 5.2\%$, as of 2015), and use the regression specification:

$$\begin{aligned}\text{InterestRate}_{i,t} &= \alpha + \alpha_h + \alpha_d + \gamma_1 \text{LoanCharacteristics}_i + \gamma_2 \text{BorrowerCharacteristics}_i \\ &+ \beta_0 1\{\text{Unemp}\}_i + \beta_1 \text{Liftoff}_t + \beta_2 1\{\text{Unemp}\}_i \times \text{Liftoff}_t + \epsilon_{i,t}. \end{aligned} \tag{1}$$

If liftoff sent a positive signal about future employment probabilities, we would expect interest rates to react more in states with relatively high unemployment rates, where the associated reduction in the perceived default risk should be strongest.The OLS regression result is reported in Table A.X. After controlling for loan-borrower characteristics, we find indeed that borrowers from states with a higher unemployment rate pay a 0.21% higher interest rate. This result highlights the link between macroeconomic employment conditions and the interest rates on individual loans. As argued in section **??** and formalized in Online Appendix B, the positive association of higher state-level unemployment rates with higher interest rates is consistent with an employment risk induced credit risk channel. Moreover, we find that the liftoff event brings down the interest rate by around 30 bps for all borrowers. We also find that liftoff had a negative, but insignificant impact on rates in states with higher post-liftoff unemployment rates. However, the insignificance of the finding is unsurprising for two reasons: 1) there is very little variation in state unemployment rates at the frequency

of our data; and 2) investors are primarily interested in unemployment rate forecasts over the maturity of the loan.

Table A.X: Before/after regressions on the interest rates using states heterogeneity

	Dependent variable: Interest rate
	(1)
Explanatory variables	
Liftoff	-0.294***
	(-3.26)
1{Unemp}	0.207**
	(2.35)
1{Unemp}×Liftoff	-0.049
	(-0.39)
Controls	
Loan Characteristics	✓
Borrower Characteristics	✓
Main Effects	
Weekday FE	✓
Hour FE	✓
Window size	LONG
Benchmark int.rate mean	15.291
Adj. R^2	0.839
Observations	4,257

Notes. We use the LONG window size for our main sample over the period November 20, 2015 to January 20, 2016. The interest rate is regressed on liftoff, loan and borrower characteristics, intra-day and intra-week dummies. The exact set of controls is similar as in previous loan-level regressions. We include dummy variables to capture state level heterogeneity in unemployment rate changes, outstanding credit card debt, local access to capital markets and local deposit market competition. Standard errors are clustered at the state level. t statistics are shown in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A few concerns regarding the state-level results may arise. First, we are not able to carefully control for local economic development in our regression, so it is possible that some findings can be attributed to omitted state level heterogeneity. However, we do not have county-level information on our borrowers in this setting; and it is difficult to control for state-wide factors cleanly. Another possible problem is that our findings could be driven by unobserved borrower composition changes at the state level due to liftoff. To deal with

this, we ran additional regressions using the cross product of state dummies and the liftoff dummy. Our main findings survive the robustness check. The interpretation, however, is difficult, since the number of observations per cluster is small.

A.4 Additional controls

Table A.XI: Additional robustness test: before/after liftoff interest rate patterns

This exercise regresses the interest rate on the liftoff dummy and a large set of borrower characteristics (and their interactions with liftoff): loan size, loan type, borrower income, debt-to-income ratio, credit rating, employment status and maturity. We also include the weekday and intra-day dummies to control the time pattern effect. After the regression, we see that the liftoff dummy is still significant at the 5% level.

interest-rate	Coef.	Std. Err.	t	P$> t$	[95% Conf.	Interval]
const.	8.849405	2.59994	3.4	0.001	3.752307	13.9465
liftoff	-0.83218	0.441527	-1.88	0.06	-1.69778	0.033417
SelfE	-0.00044	0.1756	0	0.998	-0.3446983	0.343817
UnE	0.808032	0.230418	3.51	0	0.3563047	1.259759
SelfE×liftoff	0.154699	0.23305	0.66	0.507	-0.3021872	0.611586
UnE×liftoff	0.444493	0.310696	1.43	0.153	-0.1646173	1.053603
$\{CR = Middle\}$	5.80972	0.140623	41.31	0	5.534034	6.085406
$\{CR = Low\}$	15.06863	0.158112	95.3	0	14.75866	15.37861
$\{CR = Middle\}$×liftoff	-0.28524	0.185447	-1.54	0.124	-0.6488042	0.078322
$\{CR = Low\}$×liftoff	-0.2062	0.207805	-0.99	0.321	-0.6135915	0.2012
$\{DTI = Middle\}$	0.211272	0.147104	1.44	0.151	-0.0771212	0.499664
$\{DTI = High\}$	0.26548	0.156689	1.69	0.09	-0.0417037	0.572664
$\{DTI = Middle\}$×liftoff	0.233525	0.194316	1.2	0.23	-0.1474242	0.614475
$\{DTI = High\}$×liftoff	0.388549	0.205734	1.89	0.059	-0.0147863	0.791885
$\{Size = Middle\}$	-1.22194	0.160688	-7.6	0	-1.536964	-0.90692
$\{Size = High\}$	-1.03344	0.158041	-6.54	0	-1.343271	-0.7236
$\{Size = Middle\}$×liftoff	0.047989	0.21247	0.23	0.821	-0.3685509	0.464529
$\{Size = High\}$×liftoff	-0.12305	0.205949	-0.6	0.55	-0.5268111	0.280702
\$25000-49999	-0.13179	0.311651	-0.42	0.672	-0.7427683	0.479194
\$50000-74999	-0.32142	0.326192	-0.99	0.324	-0.9609084	0.318068
\$75000-99999	-0.27184	0.352991	-0.77	0.441	-0.9638635	0.420191
\$100000+	-0.31293	0.360261	-0.87	0.385	-1.019206	0.393352
\$25000-49999×liftoff	0.21782	0.413059	0.53	0.598	-0.5919679	1.027608
\$50000-74999×liftoff	0.489855	0.43169	1.13	0.257	-0.3564594	1.336169
\$75000-99999×liftoff	0.412538	0.465196	0.89	0.375	-0.4994625	1.324539
\$100000+×liftoff	0.448182	0.476462	0.94	0.347	-0.4859063	1.38227
$\{maturity = 5\}$	-0.06957	0.121232	-0.57	0.566	-0.3072391	0.168104
$\{maturity = 5\}$×liftoff	0.016803	0.162008	0.1	0.917	-0.3008082	0.334415

B Appendix to the theoretical framework

In this section, we formalize the link between employment risk and default probabilities. More specifically, we treat employment risk as the key determinant of default risk and present a stylized model that links changes in the employment outlook to changes in default risk.

Let δ_H (δ_L) be the default probability of a high (low) credit risk borrower and consider a two period model with time indexed by $t = 1, 2$ and no discounting. The two periods capture in a stylized way the duration of a loan until maturity at the end of $t = 2$. Let $1 > p_L^E \geq p_H^E > 0$ represent the probabilities of a low and high credit risk borrower, respectively, to stay employed in a given period. Furthermore, let $1 > p_L^U \geq p_H^U > 0$ represent the probabilities of an unemployed low and high credit risk borrower, respectively, finding a new job in a given period. We assume job finding probabilities to be weakly lower than the probabilities of staying employed, i.e. $p_L^U \leq p_L^E$, $p_H^U \leq p_H^E$. Finally, let $0 < s^E < s^U < 1$ capture the probabilities of an unemployed and employed borrower, respectively, failing servicing their debt in a given period, which is considered as a permanent default.

Based on these assumptions, the default probabilities of type $k = H, L$ borrowers who are both employed at the beginning of $t = 1$ are:

$$\begin{array}{rcc} & \textit{probability of defaulting in } t=1 & \\ & \textit{when staying employed or getting unemployed} & \\ \delta_k \;=\; & \overbrace{(p_k^E s^E + (1-p_k^E)s^U)} & + \\ & \underbrace{p_k^E(1-s^E)(p_k^E s^E + (1-p_k^E)s^U)}_{\substack{\textit{prob. of defaulting in } t=2 \\ \textit{cond. on staying emp. in } t=1}} + \underbrace{(1-p_k^E)(1-s^U)(p_k^U s^E + (1-p_k^U)s^U)}_{\substack{\textit{prob. of defaulting in } t=2 \\ \textit{cond. on getting unemp. in } t=1}}. & \end{array} \tag{2}$$

We have that $\delta_H > \delta_L$ if either the probability of staying employed and/or the probability

of finding a job are higher for type L borrowers.

Next, let $p_L^E > p_H^E$ and assume that the improved economic outlook signaled by liftoff is associated with an increase in the job finding probabilities of high and low credit risk borrowers by some $\eta > 0$, i.e. $1 > p_L^U + \eta \geq p_H^U + \eta > 0$. Observe that:

$$\frac{d\delta_H}{d\eta} = (1 - p_H^E)(1 - s^U)(s^E - s^U) < \frac{d\delta_L}{d\eta} = (1 - p_L^E)(1 - s^U)(s^E - s^U). \tag{3}$$

Hence, the difference in default probabilities $(\delta_H - \delta_L)$ is decreasing in η. To the extent that the impact of the improved economic outlook on the difference in default probabilities is sufficiently high, the observed reduction in the spread between high and low credit risk borrowers after liftoff can be explained.