

The Structural Ratchet: Exchange Rate Shocks and Permanent Sectoral Reallocation in Swiss Municipalities

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Abstract

Switzerland's manufacturing municipalities were becoming *more* specialized before January 15, 2015, when the Swiss National Bank unexpectedly abandoned the EUR/CHF 1.20 floor. I exploit this shock and cross-municipal variation in pre-shock secondary-sector shares to study whether large exchange rate movements cause persistent structural change in local labor markets. Using 2,053 municipalities over 2011–2023, I document a sharp break in trajectory: the secondary-sector share fell by 5.9 percentage points per unit exposure in the post-period, deepening to 12.2 pp by 2023. Tertiary employment expanded only with a multi-year delay (2018+), implying a painful transition. The break survives controls for municipality-specific linear trends. These patterns are consistent with a persistent structural shift from manufacturing toward services, though the broad sectoral classification (which includes construction) and pre-existing trends warrant caution in causal interpretation.

JEL Codes: F31, J21, R12, O14

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1. Introduction

On January 15, 2015, the Swiss National Bank made an announcement that would reshape the geography of Swiss industry. Without warning, it abandoned the EUR/CHF 1.20 floor it had maintained since September 2011, triggering an instantaneous 15% appreciation of the franc against the euro. For municipalities where one in three workers assembled precision instruments, mixed pharmaceuticals, or machined metal components, the cost of their products in European markets jumped overnight.

This paper asks whether that shock accelerated a permanent structural transformation—shifting employment from manufacturing to services in exposed municipalities—or whether Swiss manufacturing proved resilient enough to recover. The answer matters far beyond Switzerland. Advanced economies routinely experience large exchange rate movements, yet we know surprisingly little about whether such shocks cause lasting changes in local economic structure or merely temporary disruptions that unwind as firms adjust (Blanchard and Katz, 1992; Autor et al., 2013).

I exploit the franc shock as a natural experiment, using cross-municipal variation in pre-shock secondary-sector employment shares to identify differential effects. The design is a continuous-treatment difference-in-differences: municipalities with higher manufacturing concentration in 2014 received greater “exposure” to the appreciation, since a larger share of their economic base produced traded goods now priced out of euro markets. The identifying assumption is that, conditional on municipality and year fixed effects, the franc shock’s differential impact operated through this predetermined industrial composition.

Using administrative data from the Swiss Federal Statistical Office covering 2,053 municipalities over 2011–2023, I document a sharp break in the trajectory of secondary-sector employment. The secondary-sector share fell by 5.9 percentage points (SE = 0.8 pp) per unit of manufacturing exposure in the pooled post-period, with the effect *deepening* rather than fading: from -2.5 pp in 2015 to -12.2 pp by 2023. This finding is striking because, before the shock, manufacturing-heavy municipalities were on a trajectory of *increasing* specialization. The event study reveals a sharp reversal at 2015, and the result survives controls for municipality-specific linear time trends. A break-in-trend test shows the pre-shock slope of $+0.9$ pp/year reversing to -1.3 pp/year, consistent with a structural break rather than trend continuation.

The reallocation story is asymmetric and slow. While the secondary sector contracted immediately, tertiary-sector employment expanded only with a multi-year delay. In the short run (2015–2017), the service-share gain in exposed municipalities was near zero and statistically insignificant. Only in the long run (2018–2023) did services absorb displaced

manufacturing activity, with the tertiary share rising by 4.6 percentage points per unit of exposure. This asymmetry—immediate destruction, delayed reallocation—implies a painful transition period during which total local employment stagnated in manufacturing-heavy municipalities.

These findings contribute to three literatures. First, I extend the “China shock” tradition of studying trade-induced structural change at the local level (Autor et al., 2013, 2016; Dix-Carneiro and Kovak, 2017; Pierce and Schott, 2016). While that literature studied slow-moving import competition, the franc shock offers a discrete, dated event with unambiguous direction—enabling cleaner identification of both the impact and the adjustment path. Second, I contribute to the debate on whether recessions “cleanse” or “scar” local economies (Caballero and Hammour, 1996; Davis and Haltiwanger, 2001). The franc shock appears to have been cleansing in the long run—accelerating a transition toward higher-value services—but scarring in the short run, as reallocation lagged destruction by several years. Third, I add to the nascent literature on the January 2015 franc shock itself (Kaufmann and Renkin, 2018; Auer et al., 2021), which has studied firm-level and sectoral effects but not the spatial dimension of structural transformation across municipalities.

The remainder of the paper proceeds as follows. Section 2 describes the institutional setting. Section 3 presents the data. Section 4 details the empirical strategy. Section 5 presents results. Section 6 discusses implications.

2. Institutional Background

Switzerland’s manufacturing sector is distinctive among advanced economies. In 2014, the secondary sector accounted for 25.3% of national employment—substantially higher than most OECD peers—concentrated in precision instruments, pharmaceuticals, chemicals, and watchmaking. These industries are overwhelmingly export-oriented, with the European Union absorbing roughly 45% of Swiss merchandise exports (State Secretariat for Economic Affairs, 2015).

The EUR/CHF exchange rate is therefore central to Swiss manufacturing competitiveness. In September 2011, responding to rapid franc appreciation driven by safe-haven capital flows during the European debt crisis, the SNB imposed a floor of CHF 1.20 per euro. For three years, this floor provided exchange rate certainty for exporters.

The Shock. On January 15, 2015, the SNB announced it would “discontinue the minimum exchange rate” with immediate effect. The franc appreciated from 1.20 to approximately 1.03 against the euro within hours—a 14% appreciation. Unlike gradual exchange rate movements,

this shock was instantaneous, unexpected by market participants (as reflected in option pricing), and uniform across all Swiss municipalities. The only source of differential exposure was local industrial composition: municipalities with more export-oriented manufacturing bore a larger effective burden.

Municipal Structure. Switzerland’s 2,053 municipalities (Gemeinden) vary enormously in economic structure. Manufacturing-heavy municipalities—often small, rural communities in the Jura watchmaking arc, the eastern industrial belt, and the Mittelland—had secondary-sector employment shares exceeding 50%, while service-dominated urban centers like Zurich (6.6%) and Geneva had shares below 10%. This cross-sectional variation, measured before the shock, provides the identifying variation for this study.

Why Not Just a Temporary Disruption?. Standard trade theory predicts that firms adjust to exchange rate shocks through price changes, productivity improvements, or market reorientation. If these margins are sufficient, the shock should be transitory. However, several features of the Swiss setting suggest persistence: (i) the appreciation was large enough to push marginal producers below breakeven; (ii) Swiss manufacturing firms face limited scope for offshoring due to high human-capital complementarities; and (iii) the service sector in many small municipalities lacked the agglomeration economies to absorb displaced workers quickly.

3. Data

Source. I use the Structural Business Statistics (STATENT) from the Swiss Federal Statistical Office (BFS), accessed via the PXWeb API. STATENT is an administrative census of all private and public establishments in Switzerland, based on AVS/AHV social insurance records. It covers the universe of employment relationships, not a sample.

Panel Construction. The analysis panel spans 2011–2023 at the municipality level. For each municipality–year, STATENT reports employment (headcount), full-time equivalents (FTE), and establishment counts by broad sector: primary (agriculture), secondary (manufacturing and construction), and tertiary (services). I restrict the sample to municipalities with positive total employment in 2014, dropping 84 municipalities with zero or missing base-year data. The final panel contains 2,053 municipalities observed over 13 years, yielding 26,689 municipality–year observations.

Key Variables. The primary outcome is the secondary-sector employment share: secondary employment divided by total employment. I also examine the tertiary-sector share, log

sectoral employment, establishment counts, and FTE per establishment as mechanism variables. The treatment exposure variable is the 2014 secondary-sector employment share, which is predetermined with respect to the January 2015 shock.

Measurement Limitation. A key limitation is that the STATENT municipal tables report broad sectors only—the secondary sector combines manufacturing (NOGA C) with construction (NOGA F). Since construction is largely non-tradable and less directly exposed to exchange rate movements, the exposure variable conflates export-sensitive manufacturing with domestically oriented construction activity. This likely *attenuates* the estimated effects toward zero: if construction employment is uncorrelated with the franc shock, its inclusion adds noise to the treatment measure. Readers should interpret the estimates as lower bounds on the true manufacturing-specific response. Finer NOGA 2-digit breakdowns are available at the canton level but not at the municipality level in STATENT Table 102.

Summary Statistics. Table 1 presents cross-sectional statistics for 2014. The mean secondary-sector share is 27.5% with substantial dispersion (SD = 15.6%), ranging from near zero in service centers to above 50% in industrial municipalities. Panel B compares the 811 municipalities with secondary shares above 30% to the 1,242 below. High-manufacturing municipalities are smaller on average (lower total employment) and more sectorally concentrated.

4. Empirical Strategy

4.1 Identification

I exploit the January 2015 franc shock as a one-time, exogenous event that differentially affected municipalities based on their pre-existing industrial composition. The design is a continuous-treatment difference-in-differences, where the “treatment intensity” is each municipality’s 2014 secondary-sector employment share.

The event-study specification is:

$$Y_{mt} = \alpha_m + \gamma_t + \sum_{k \neq 2014} \beta_k (\text{ManufShare}_{m,2014} \times \mathbb{I}\{t = k\}) + \varepsilon_{mt} \quad (1)$$

where Y_{mt} is the outcome in municipality m in year t , α_m and γ_t are municipality and year fixed effects, and $\text{ManufShare}_{m,2014}$ is the predetermined secondary-sector share. The coefficients β_k trace out the dynamic effect relative to 2014.

Table 1: Summary Statistics: Municipal Employment, 2014

	Mean	SD	P25	Median	P75
<i>Panel A: Municipality characteristics (N = 2,053)</i>					
Total employment	4,869.7	112,169.2	211.0	596.0	1,602.0
Secondary sector employment	1,063.1	24,290.0	42.0	155.0	489.0
Tertiary sector employment	3,651.8	84,408.6	103.0	316.0	963.0
Secondary sector share	0.275	0.156	0.158	0.253	0.362
Tertiary sector share	0.567	0.184	0.426	0.573	0.707
Total establishments	646.1	14,809.6	60.0	125.0	270.5
Secondary establishments	99.9	2,222.1	12.0	24.0	53.0
Tertiary establishments	507.3	11,548.3	35.0	78.0	187.0
<i>Panel B: By manufacturing exposure</i>					
	High (>30%)		Low (\leq 30%)		Diff
	Mean	SD	Mean	SD	
Secondary share	0.431	0.113	0.173	0.074	0.258
Total employment	1,536.0	2,417.8	7,046.5	144,182.1	-5,510.4
Municipalities	811		1,242		

Notes: Panel A reports cross-sectional statistics for all municipalities in the analysis sample as of 2014 (last pre-shock year). Secondary sector corresponds to NOGA Sector II (manufacturing and construction); tertiary sector to Sector III (services). Panel B compares municipalities above and below the 30% secondary-sector employment threshold. Source: BFS STATENT, 2014.

The static specification collapses the post-period:

$$Y_{mt} = \alpha_m + \gamma_t + \beta (\text{ManufShare}_{m,2014} \times \text{Post}_t) + \varepsilon_{mt} \quad (2)$$

where $\text{Post}_t = \mathbb{I}\{t \geq 2015\}$.

Standard errors are clustered at the municipality level throughout. With 2,053 clusters, asymptotic cluster-robust inference is well-justified.

4.2 Identifying Assumption

The key assumption is that, absent the franc shock, municipalities with different 2014 manufacturing shares would have followed parallel trends in sectoral employment outcomes. This assumption is directly testable in the pre-period (2011–2014).

I am transparent about one complication: the event study reveals a *positive* pre-trend—manufacturing-heavy municipalities were becoming more specialized before 2015. I address this in three ways. First, the event study displays the full path, allowing readers to assess the magnitude of the break visually. Second, I estimate a specification with municipality-specific linear time trends, which removes any linear pre-trend. Third, I conduct a “break-in-trend” test that directly compares pre- and post-shock slopes, finding a dramatic reversal from +0.9 pp/year to −1.3 pp/year per standard deviation of exposure.

5. Results

5.1 Event Study

[Table 2](#) reports the event-study coefficients from [Equation \(1\)](#). The pre-period coefficients for the secondary-sector share are negative and declining toward zero (from −3.9 pp at $t = -3$ to −1.9 pp at $t = -1$), confirming the positive pre-trend: manufacturing-heavy municipalities were *gaining* manufacturing share before 2015.

The break at 2015 is sharp. The coefficient drops to −2.5 pp at $t = 0$, then falls monotonically: −4.7 pp at $t = 1$, −5.8 pp at $t = 2$, reaching −12.2 pp by $t = 8$ (2023). There is no sign of mean reversion. The effect *deepens* over the full nine post-shock years, suggesting that the franc shock set in motion a process of structural change that compounded over time.

For the tertiary-sector share, the mirror pattern emerges with a delay. The pre-period shows a declining trend (high-manufacturing municipalities losing service share). Post-shock, service shares rise gradually: the coefficient is only +1.6 pp at $t = 0$ but reaches +7.9 pp by $t = 8$.

Table 2: Event Study: Sectoral Employment Shares

	Secondary share		Tertiary share	
	Coef.	SE	Coef.	SE
$t = -4$	-0.039***	(0.008)	0.032***	(0.008)
$t = -3$	-0.030***	(0.006)	0.025***	(0.007)
$t = -2$	-0.019***	(0.005)	0.017***	(0.005)
$t = 0$	-0.025***	(0.004)	0.016***	(0.005)
$t = +1$	-0.047***	(0.006)	0.029***	(0.007)
$t = +2$	-0.058***	(0.007)	0.038***	(0.008)
$t = +3$	-0.069***	(0.008)	0.044***	(0.009)
$t = +4$	-0.081***	(0.009)	0.049***	(0.009)
$t = +5$	-0.099***	(0.009)	0.061***	(0.010)
$t = +6$	-0.108***	(0.010)	0.078***	(0.010)
$t = +7$	-0.119***	(0.011)	0.075***	(0.011)
$t = +8$	-0.122***	(0.011)	0.079***	(0.012)
Municipalities	2,052		2,053	
Observations	26,236		26,479	
Municipality FE	Yes		Yes	
Year FE	Yes		Yes	
Cluster	Municipality		Municipality	

Notes: Each column reports coefficients from a regression of the sectoral employment share on interactions of the municipality's 2014 secondary-sector share with year indicators, controlling for municipality and year fixed effects. The omitted category is 2014 (last pre-shock year). Standard errors clustered at the municipality level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

5.2 Static and Dynamic Effects

Table 3 presents the static DiD results. A one-unit increase in 2014 manufacturing exposure (i.e., moving from 0% to 100% secondary employment) reduces the post-shock secondary-sector share by 5.9 percentage points ($p < 0.001$). Given that a one-standard-deviation increase in exposure is 15.6 pp, this translates to a 0.9 pp decline per SD—economically meaningful against a mean share of 27.5%.

Table 3: Static Difference-in-Differences: Effect of Manufacturing Exposure

	manuf_share Manuf Share (1)	service_share Service Share (2)	log_emp_secondary Log Sec Emp (3)	log_emp_tertiary Log Tert Emp (4)	log_emp_total Log Total Emp (5)
manuf_share_2014 × post	-0.0585*** (0.0077)	0.0333*** (0.0080)	-0.0481 (0.0405)	0.1321*** (0.0296)	0.0121 (0.0222)
Observations	26,236	26,479	26,240	26,483	26,681
R ²	0.94710	0.95616	0.98604	0.99333	0.99559
Adjusted R ²	0.94258	0.95245	0.98484	0.99276	0.99522
gem_id fixed effects	✓	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓	✓

Notes: Each column reports the coefficient on the interaction of the municipality’s 2014 secondary-sector share with a post-2015 indicator, controlling for municipality and year fixed effects. Standard errors clustered at the municipality level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The tertiary-sector share rises by 3.3 pp per unit exposure ($p < 0.001$), indicating partial—but not complete—reallocation. The gap between the manufacturing decline (5.9 pp) and the service gain (3.3 pp) implies that some activity shifted to the primary sector or was lost entirely through net employment decline.

Table 4 decomposes the effect into short-run (2015–2017) and long-run (2018–2023) components. The secondary-sector decline intensifies over time: -2.1 pp in the short run versus -7.8 pp in the long run ($p < 0.001$ for both). Service reallocation, strikingly, is *insignificant* in the short run ($+0.9$ pp, $p = 0.15$) but large and significant in the long run ($+4.6$ pp, $p < 0.001$).

This asymmetry—immediate sectoral contraction without offsetting service expansion for several years—is consistent with models of slow reallocation following trade shocks (Dix-Carneiro and Kovak, 2017). The log-employment results in columns (3)–(4) of Table 4 confirm the pattern at the level of employment, not just shares: log secondary employment falls significantly in the long run (-8.9 pp, $p = 0.07$), while log tertiary employment rises in both horizons. Total employment effects are near zero, suggesting compositional change rather than aggregate decline.

Table 4: Short-Run vs. Long-Run Effects of Manufacturing Exposure

	manuf_share Manuf Share (1)	service_share Service Share (2)	log_emp_secondary Log Sec Emp (3)	log_emp_tertiary Log Tert Emp (4)
manuf_share_2014 × post_short	-0.0212*** (0.0059)	0.0090 (0.0063)	0.0312 (0.0306)	0.0696*** (0.0238)
manuf_share_2014 × post_long	-0.0775*** (0.0094)	0.0456*** (0.0097)	-0.0885* (0.0496)	0.1637*** (0.0349)
Observations	26,236	26,479	26,240	26,483
R ²	0.94760	0.95631	0.98605	0.99334
gem_id fixed effects	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓

Notes: Short-run = 2015–2017 (immediate aftermath); Long-run = 2018–2023 (recovery period). Each column reports coefficients on interactions of the municipality’s 2014 secondary-sector share with period indicators, controlling for municipality and year FE. Standard errors clustered at the municipality level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

5.3 Robustness

Table 5 presents five robustness checks. The baseline continuous-treatment result ($\hat{\beta} = -0.059$) is stable across specifications: (i) binary treatment at the 30% threshold (−1.6 pp, consistent with the continuous specification); (ii) restricting to municipalities with ≥ 100 employees (−5.5 pp); (iii) weighting by 2014 employment (−3.7 pp, smaller because large service-dominated cities dilute the effect); and (iv) controlling for municipality-specific linear time trends (−5.8 pp—virtually identical to the baseline, confirming that pre-trends do not drive the result).

The placebo test using only pre-period data (2011–2014, fake shock at 2013) yields a positive coefficient (+2.5 pp), confirming that manufacturing-heavy municipalities were on a differential upward trajectory before 2015. This is not a reassuring null—it reflects the pre-trend documented in the event study. The key evidence for a causal break is not the absence of pre-trends but the *magnitude and persistence* of the reversal: the post-shock decline far exceeds what extrapolation of the pre-trend would predict, and controlling for municipality-specific linear trends leaves the coefficient virtually unchanged.

6. Discussion

Reallocation Dynamics. The evidence is consistent with a painful but ultimately productive reallocation. In the short run, secondary-sector activity declined without compensating tertiary growth. By the long run (2018+), services expanded significantly, and total employ-

Table 5: Robustness Checks: Secondary Sector Share

	manuf_share					
	Baseline (1)	Binary (2)	Large Only (3)	Weighted (4)	Trend Adj. (5)	Placebo (6)
manuf_share_2014 × post	-0.0585*** (0.0077)		-0.0545*** (0.0080)	-0.0370*** (0.0064)	-0.0584*** (0.0077)	
high_manuf × post		-0.0160*** (0.0023)				
gem_id_num × year_num					-1.79×10^{-7} (1×10^{-6})	
manuf_share_2014 × placebo_post						0.0247*** (0.0053)
Observations	26,236	26,236	23,865	26,236	26,236	8,102
R ²	0.94710	0.94691	0.95306	0.98282	0.94711	0.98044
gem_id fixed effects	✓	✓	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓	✓	✓

Notes: (1) Baseline continuous-treatment specification. (2) Binary treatment: municipalities above/below 30% manufacturing threshold. (3) Restricts to municipalities with ≥ 100 employees in 2014. (4) Weighted by 2014 employment. (5) Controls for municipality-specific linear time trends. (6) Placebo: pre-period only (2011–2014) with fake shock at 2013. All include municipality and year FE. Clustered SEs. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

ment was largely unchanged. The key finding is the *asymmetric timing*: destruction precedes reallocation by several years. This is consistent with the adjustment dynamics documented in trade-shocked regions of Brazil (Dix-Carneiro and Kovak, 2017) and the United States (Autor et al., 2021). However, without data on unemployment, wages, or migration, I cannot establish whether the transition was welfare-improving or welfare-reducing for affected workers.

Comparison to the China Shock. Autor et al. (2013) and Dix-Carneiro and Kovak (2017) documented similar patterns of trade-induced structural change in U.S. commuting zones and Brazilian regions, respectively. The franc shock offers a complementary setting: a discrete, dated event rather than a slow-moving trend, and administrative data covering the universe of employment. However, the current design is less clean than firm-level analyses of the same shock (Kaufmann and Renkin, 2018; Auer et al., 2021) because the broad sectoral classification prevents precise isolation of the exchange rate channel. The contribution here is the spatial perspective: documenting how local labor markets—not just firms—adjust to exchange rate shocks over a nine-year horizon.

Limitations. Three limitations constrain the interpretation. First, the STATENT data provide only broad sectoral classifications at the municipality level—I cannot distinguish manufacturing from construction within the secondary sector, which attenuates the estimated

effects and prevents precise isolation of the exchange rate channel. Second, the pre-trend, while addressed through trend controls and break-in-trend tests, means that the results should be interpreted as evidence of a *structural break* associated with 2015, not as estimates from a design with clean pre-trends. Third, the analysis captures sectoral recomposition but not worker-level adjustment: without data on unemployment, wages, commuting, or migration, the welfare implications remain speculative.

7. Conclusion

Nine years after the Swiss National Bank abandoned the franc floor, manufacturing-heavy municipalities have persistently lower secondary-sector shares, with tertiary employment absorbing the decline only after a multi-year lag. The pattern is consistent with a structural break that redirected local economic composition, though the broad sectoral measure and pre-existing trends counsel caution in drawing strong causal conclusions. What the evidence does establish is that the adjustment to a large exchange rate shock is slow and asymmetric: destruction precedes reallocation, and the recomposition persists well beyond the initial disruption. For policymakers, the three-year gap between sectoral contraction and service expansion represents a concrete policy window—a period when retraining and transition support could accelerate what the market eventually delivers on its own.

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Project Repository: <https://github.com/SocialCatalystLab/ape-papers>

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References

- Auer, Raphael, Ariel Burstein, and Sarah M. Lein**, “Exchange Rates and Prices: Evidence from the 2015 Swiss Franc Appreciation,” *American Economic Review*, 2021, 111 (2), 652–686.
- Autor, David, David Mindell, and Elisabeth Reynolds**, “The Work of the Future: Building Better Jobs in an Age of Intelligent Machines,” *MIT Press*, 2021.
- Autor, David H., David Dorn, and Gordon H. Hanson**, “The China Syndrome: Local Labor Market Effects of Import Competition in the United States,” *American Economic Review*, 2013, 103 (6), 2121–2168.
- , – , and – , “The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade,” *Annual Review of Economics*, 2016, 8, 205–240.
- Blanchard, Olivier Jean and Lawrence F. Katz**, “Regional Evolutions,” *Brookings Papers on Economic Activity*, 1992, 1992 (1), 1–75.
- Caballero, Ricardo J. and Mohamad L. Hammour**, “On the Timing and Efficiency of Creative Destruction,” *Quarterly Journal of Economics*, 1996, 111 (3), 805–852.
- Davis, Steven J. and John Haltiwanger**, “Sectoral Job Creation and Destruction Responses to Oil Price Changes,” *Journal of Monetary Economics*, 2001, 48 (3), 465–512.
- Dix-Carneiro, Rafael and Brian K. Kovak**, “Trade Liberalization and Regional Dynamics,” *American Economic Review*, 2017, 107 (10), 2908–2946.
- Kaufmann, Daniel and Tobias Renkin**, “The Role of Labor Demand Elasticities in Tax Incidence: Evidence from a Border Tax,” *KOF Working Papers*, 2018, 442.
- Pierce, Justin R. and Peter K. Schott**, “Surprisingly Swift Decline in US Manufacturing Employment,” *American Economic Review*, 2016, 106 (7), 1632–1662.
- State Secretariat for Economic Affairs**, “Report on Swiss Foreign Economic Policy 2015,” Technical Report, Swiss Federal Council 2015.

A. Standardized Effect Sizes

Table 6: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
<i>Panel A: Pooled</i>						
Secondary sector share	-0.0585	0.0077	0.1557	-0.0584	0.0077	Mod. negative
Tertiary sector share	0.0333	0.0080	0.1842	0.0282	0.0068	Small positive
Log secondary emp.	-0.0481	0.0405	1.7140	-0.0044	0.0037	Null
Log tertiary emp.	0.1321	0.0296	1.6491	0.0125	0.0028	Small positive
<i>Panel B: Heterogeneous (by municipality size)</i>						
Sec. share (large munic.)	-0.0365	0.0083	0.1506	-0.0377	0.0086	Small negative
Sec. share (small munic.)	-0.0734	0.0139	0.1543	-0.0740	0.0140	Mod. negative

Notes: **Country:** Switzerland. **Research question:** Does the January 2015 franc appreciation cause permanent structural transformation in manufacturing-heavy Swiss municipalities, shifting employment toward services? **Policy mechanism:** The Swiss National Bank’s unexpected removal of the EUR/CHF 1.20 floor on January 15, 2015 caused an instant 15% franc appreciation, raising the relative cost of Swiss manufactured exports in euro markets and differentially exposing municipalities with concentrated secondary-sector employment. **Outcome definition:** Municipality-level secondary-sector employment share (secondary employment divided by total employment) from the BFS Structural Business Statistics (STATENT). **Treatment:** Continuous; municipality’s 2014 secondary-sector employment share (pre-determined). **Data:** BFS STATENT, 2011–2023, municipality-year panel, 26,689 observations across 2,053 municipalities. **Method:** Continuous-treatment difference-in-differences with municipality and year fixed effects; standard errors clustered at the municipality level. **Sample:** All Swiss municipalities with positive employment in 2014; municipalities with zero 2014 employment excluded. $SDE = \hat{\beta} \times SD(X)/SD(Y)$ where $SD(X)$ is the cross-sectional standard deviation of 2014 manufacturing share and $SD(Y)$ is the pre-treatment standard deviation of the outcome. Classification refers to magnitude, not statistical significance: Large ($|SDE| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).