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When Vultures Bring Blessings:

Employment Change in Japanese Businesses under Private Equity Ownership

Georg D. BLIND* and Stefania LOTTANTI VON MANDACH*

Abstract (102 words)

Tracking the effect of private equity ownership on employment in Japan, we find evidence that employment grows significantly under private equity ownership, a finding that runs against common expectations and stands in stark contrast with results from studies on Anglo-Saxon economies. We further find that the increase is not attributable to selection effects and that growth rates during the holding period are significantly higher than under the previous ownership. Triangulating these findings through interviews with labor, management, and fund ownership, we find implicit labor protection through reputational concerns the underlying taming mechanism for the observed deviation from expected patterns of employment reduction.

Keywords: Employment adjustments; private equity; buyout investments; Japan

JEL codes: J23; J63; G34; M51

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Essentially, buyout funds are trading in second-hand businesses where gains entirely depend on the difference between the buying and the selling price. With valuation of businesses predominantly resulting as multiples of gross profits, any measures increasing revenues or cutting costs will positively impact on a fund's margin. For simple accounting reasons, cost-cutting measures come with a much stronger lever as cost reductions directly contribute to bottom-line profits. In contrast, an increase in revenues only contributes to profits via the gross margin. For instance, in a business with high variable cost – say 80% of sales price, a mere 10% reduction of the cost base increases profits about as much as a 50% increase in sales. Moreover, increasing sales typically requires more time than cost reductions. Accordingly, we may expect buyout funds to concentrate on cost reductions whenever possible.

Eventually, the buyout industry has come in for severe criticism in the media for excesses in reducing cost through labor reductions, even more pronounced than what has been observed after other forms of ownership change, e.g., through M&A activities (Kuvandikov, Pendleton, and Higgins 2014). Buyout investors, suspected of increasing profitability at the expense of employees and employment, have been labeled “locusts”, “vultures” or “gluttons” (Appelbaum and Batt 2014; Froud and Williams 2007; Lutz and Achleitner 2009). While industry associations never tire of emphasizing the buyout industry's social gains in terms of employment preservation and creation, most of the independent scholarly research with significant findings on the effects on employment of buyout investments documents substantial average losses, broadly in line with the almost universally negative public perception of these activities.

For Japan it is particularly difficult to predict the net outcome on employment. In a country with a strong tradition of long-term commitments to life-time employment (see Kambayashi and Kato 2017), we might expect significantly smaller employment losses than in other economies, as such institutional environment may limit the grip of investors on one of the major levers in cutting cost. On the other hand, the relative absence of economic growth in a country characterized by economic malaise for the better part of the past quarter century may also restrict opportunities to increase firm value via growth strategies.

Building on a unique proprietary dataset covering the full population of fund-led

buyout transactions concluded between the nascence of the Japanese buyout industry in 1998 and September 2015, our research finds the first ever evidence of the impact of buyout investments on employment levels in Japan. In addition to these descriptive accounts, our methodological setup rules out selection effects and also checks on causality: do fund managers cause a significant differential in net employment growth? Finally, we address the question of whether the employment changes observed are any different from general labor market trends and industry-specific developments. This question has rarely been addressed in previous studies, mainly due to the adoption of a different methodological approach.

Our analysis yields the following main results. First, we find that Japanese businesses subject to buyout transactions by private equity funds exhibit average organic growth in standard employment of 12.3% during a median holding period of 3.92 years and a mean holding period of 4.31 years. Second, when corrected for industry effects and labor market trends this figure shifts to 13.4%. Third, fund managers investing in Japanese private businesses do not merely buy into existing trends, but create a significant and positive employment growth differential pre- and post-buyout. And fourth, building on one and two, it becomes obvious that buyout fund managers in Japan invest predominantly in industries with negative employment growth.

For triangulating these rather surprising results, which indicate no shortage of growth opportunities (contrary to common perceptions of the general state of the Japanese economy), we conducted a series of interviews with domestic and foreign buyout investors. The interviews revealed that fund managers in Japan tend to focus on growth strategies and to refrain from affecting the “Holy Grail” of employment as a rational response to this particular social norm.

The paper is structured as follows. Section I reviews related research. Section II describes the dataset. Section III presents descriptive results. Section IV explores an explanatory model of employment changes and presents a number of robustness checks. Section V discusses findings and proposes potential explanations. Section VI concludes.

I. Related Literature: Findings and Issues

The studies reviewed here have all documented significant changes in employment under private equity ownership when compared to pre-buyout employment levels and/or control groups.¹ Studies sponsored by industry associations and labor organizations and research not verified in peer-review processes were excluded due to the possibility of vested interests and for quality concerns, respectively. We review them in relation to our four research questions: (1) What is the impact of buyout investments on employment? (2) Has the study identified or ruled out selection effects? (3) Does the study tackle the question of causality? (4) How does the sample compare to the overall population?

Liebeskind et al. (1992) analyze 33 buyouts that occurred in the largest 1,500 US corporations between 1980 and 1984. Post buyout, the median number of employees declined in both buyout targets and matched control firms, but significantly more in the former. The authors control for pre-buyout differences, which rules out selection effects. They further find that buyout managers downsized corporate operations significantly more than in their set of publicly listed control firms, evidencing a causal involvement of funds. They do not, however, address the question of how the buyout sample compares to industry-specific labor market trends.

Harris et al. (2005) report massive job losses after analyzing a large sample of 979 buyouts and 4,877 manufacturing plants in the UK during the years 1994–1998. By comparing the mean value of post-buyout to pre-buyout employment levels, they find a staggering 61% (weighted) job loss at manufacturing plants. The authors report that funds are investing in plants with below average productivity pointing to a selection effect. However, as in the study of Liebeskind et al. (1992), the question of how the buyout sample compares to the overall economy in terms of employment changes is not addressed.

Boucly et al. (2011) examine an almost equally large sample of 839 buyouts in France completed between 1994 and 2004. They find that between the four years preceding the transaction and the four subsequent years, employment growth at buyout targets is significantly higher than at their control firms (cumulative 18%), and in the four years after buyout employment grows by approximately 15%. The magnitude of cumulative employment growth is comparable to our findings and there is indicative evidence of some qualitative similarities. While the authors do not comment on it

explicitly, their Figure 3 suggests that there may be a selection effect, as fund managers seem to prefer investing in businesses with larger employment growth than matched controls. Post-buyout employment growth remains significantly higher even after controlling for pre-buyout differences, indicating that fund managers do make a difference. Their study does not, however, include a comparison between employment developments in their sample and industry-specific employment trends in French businesses.

Cressy et al. (2011) analyze 57 buyouts in the UK over the period 1995–2000. Employment at investee companies falls by 7% relative to controls (83 firms) as early as the first year post buyout, peaking at a 23% per annum loss in the fourth year. Finding a significant difference post buyout compared to their matched companies, but no such difference in the buyout year itself, the authors argue that there was no selection effect and that fund managers did have a significant impact on employment levels at sample firms. A comparison of employment changes in the sample and the overall labor market is missing.

Goergen et al. (2011) study 73 buyouts of UK public companies completed in the years 2000–2006 and find that employment in acquired firms reduces significantly in the year immediately after the completion of the transaction compared to the matched sample of non-acquired firms. Selection effects can be ruled out because they find no significant differences in medians between sample companies and control companies pre-buyout, and fund managers' impact on employment levels post buyout seems significant. A comparison of employment changes in the sample and industry-specific labor market trends is also missing.

Davis et al. (2014) track employment at 3,200 firms and their 150,000 establishments in the US that were subject to buyouts between 1980 and 2005. At the establishment level, employment shrinks by 3% relative to controls in the two-year period post buyout and by 6% over five years. Gross job loss at target establishments outpaces the losses at controls by a cumulative 10 percentage points over five years post buyout. At firm level, target firms create new jobs in newly opened establishments at a faster pace than control firms. However, accounting for the purchase and sale of establishments as well, the target–control growth differential is less than 1% of initial employment over two years. Therefore, the authors conclude that buyouts lead to modest net job losses, but large increases in gross job creation and abolition. They rule

out selection effects by controlling for pre-buyout growth history and find post-buyout employment growth rates at target firms significantly different from controls. As in other studies relying on a matched-pairs approach, it remains unclear how investee companies compare to general labor market trends.

Finally, Bernstein et al. (2016) analyzed 11,735 country-industry-year observations between 1986 and 2009 in a global study. Employment in buyout industries (i.e., industries where private equity funds invest) grows significantly faster than in non-buyout industries. This result seems at least partly driven by spillover effects from buyout target firms to other firms in the industry. Bernstein et al. rule out a selection effect because buyout funds do not seem to select industries that are growing faster. They include country-industry and industry-year fixed effects to measure the impact of buyout investments relative to the average performance in a given country, industry, and year, but equally do not indicate how their sample compares to the overall economy.

Summing up this review of prior research, cost efficiency measures – including reductions in headcount – seem to balance or even outweigh growth strategies in the vast majority of cases. Beyond these material findings, the studies reviewed identify a number of methodological challenges in estimating the impact of buyout investments on employment (see for example Davis et al. 2014). Firstly, reliability of studies is at risk through measurement errors, namely through (a) an unwarranted inclusion of cases with acquisitions or divestments of business units during the holding period, or through (b) definitional issues such as using gross headcount instead of full-time equivalent, which leaves changes in employment practices unaccounted for (for example, increasing share of part-time work). Secondly, there is substantial risk of biased samples, namely through (a) the dropping of buyouts that involve the sale or acquisition of business units (in an attempt at avoiding measurements errors), and (b) when samples are drawn from unknown populations that cannot be checked for representativeness.

II. Population and Sample

Our proprietary dataset, assembled and cross-evaluated using government reports, fund websites, press searches and data provided by an independent Japanese advisor, includes the population of $n=404$ majority buyout transactions of private businesses with operations in Japan conducted since 1998 and exited by September 2015. Employment figures for 224 investee companies were obtained from Teikoku Databank. Funds themselves were also asked to provide employment figures on their investee companies. In order to avoid “cherry picking”, we made full data disclosure (i.e., for the entire completed part of their portfolios) a prerequisite for participation. Eventually, seven funds provided data on 77 exited portfolio companies. With data on 45 companies received from both sources, size of the raw sample was $n=256$.

For addressing the risks to reliability discussed in section I, we checked all transactions in the sample for acquisitions and divestments of business units during the holding period and 17 corresponding cases (or 6.64% of the raw sample) were identified. In light of this relatively low figure, we decided to trade in a good deal of reliability for a small – if any – loss in validity by eliminating these distorted cases. As full time equivalents were not available we opted for headcount of regular full-time employees. Given the strong general trend towards more non-standard employment observed for Japan since the 1990s (Blind and Lottanti von Mandach 2015), headcount of regular employees can be considered a strongly conservative measure of total employment.

To match employment data to the entry and exit dates, a maximum deviation of 365 days was allowed. As the effective date for most employment adjustments in Japan is April 1, cases with post-entry data beyond March 31 were not included reducing the raw sample to 239 cases (204 firms covered by Teikoku Databank, 66 by fund manager data, and 31 by both sources).

In the next step we used 62 valid pairs of firm/year observations received from both sources to test for a potential reporting bias by fund managers. As neither one- nor two-sided tests could confirm a statistically significant difference, the data obtained from fund managers was integrated.ⁱⁱ This test, however, does not preclude the possibility of self-selection among participating funds (see discussion of robustness in section 5). Employment levels at entry and exit were approximated by linear interpolation and extrapolation respectively. Appended TABLE A documents properties

of data matching and corresponding inter/extrapolation. Notably, the difference in the mean correction factors of employment at entry and exit contributes 1.68 percentage points to a conservative estimate of employment growth under fund ownership. Finally, the following were also excluded: 35 cases with insufficient employment data on either entry or exit; 7 cases with less than 10 regular employees at time of investment; and 13 cases with holding periods of up to one year.ⁱⁱⁱ The final sample therefore contains n=184 cases (or 45.5% of the population).

As our dataset covers the full population, we are able to assess the sample and its subsets for representativeness. Eventually, we found the sample well-balanced with regard to an important number of dimensions such as its distribution over time (appended TABLE B), the size of investee companies and duration of holding period (appended TABLE C), as well as sample composition by deal type, fund category, and industries (appended TABLE D and E).

III. Descriptive Results

We use an industry-adjustment approach as used by Kaplan (1989), Smith (1990) or Sousa and Jenkinson (2013) in the buyout industry context, and by Allen and Philipps (2000) or Hsu et al. (2015) in other empirical studies. We also analyze whether the observed employment changes are any different from general labor market trends and industry-specific developments, because we believe that such information is critical for policy making. This question has rarely been addressed in previous studies mainly due to the adoption of a different methodological approach such as matched-pairs analysis, which is more appropriate in studies directed towards understanding mechanisms of change in firms (see for example Liebeskind et al. 1993 and O'Farrell and Hitchens 1988). It remains largely unclear whether fund managers select businesses with above- or below-average employment growth as compared to the overall economy. Addressing these latter questions, we equally succeed in providing evidence on the same questions as addressed by matched-pairs studies, including employment levels, selection effects and causality.

A direct comparison of standard (regular) employment at entry and exit of fund investors provides cues to our first question on employment changes during fund

ownership. There was an average increase of 12.3% in standard employment during the holding period with a one-sided confidence threshold of 7.99% at the 90% level ($CI_{90\%} = [6.78; 17.75]$). Using only the data from Teikoku Databank ($n=137$) reduces these figures to 10.44% with a 90% threshold of 5.61%. This shows that the private equity industry is making an overall positive contribution to employment growth in Japan, which is in stark contrast to most findings from other countries. Owing to the dispersion of holding periods, however, the measure of total growth during holding period is subject to quite substantial variance, which unnecessarily complicates further statistical treatment.

Therefore, we use compound annual growth rates as our test statistic going forward. TABLE 1 shows the test statistic for the entire sample as well as for subsets ‘Teikoku’ (data obtained from Teikoku Databank) and ‘Fund’ (data obtained from fund managers). Businesses under fund ownership show a positive trend in regular employment with significant estimates confirmed at the 90% level in one-sided *t*-tests for the full sample as well as for both subsets. Mean growth rates are substantially higher for subset ‘Fund’, which may indicate a self-selection bias (likelihood of fund participation in our survey potentially conditional upon their track record of employment creation). We will revert to this issue in the robustness part of the discussion (see section IV).

TABLE 1: COMPOUND ANNUAL GROWTH RATES (CAGR) OF REGULAR EMPLOYMENT UNDER FUND OWNERSHIP (%)

	Mean	Confidence (90%)			Min	Max
		lower	upper	one-sided		
Full sample ($n=184$)	1.63 (0.0065)	0.56	2.70	0.79	-22.13	36.80
Subset ‘Teikoku’ ($n=137$)	1.12 (0.0072)	-0.06	2.29	0.20	-22.13	28.36
Subset ‘Fund’ ($n=47$)	3.11 (0.0144)	0.74	5.49	1.26	-16.98	36.80

The second question – whether these changes are any different from general labor market trends and industry-specific developments – is addressed by adjusting the data

for corresponding changes documented in the Ministry of Health, Labor and Welfare’s *Labor Force Survey (Rôdôryoku Chôsa)* (Statistics Bureau of Japan 1998–2015). This adjustment is achieved by expanding the employment figures by the inverse of the relative change in industry-specific absolute employment figures during the holding period. The *Labor Force Survey* provides monthly data from 2002, enabling almost perfect matching of entry and exit dates. Before 2002, where only annual data is available, weighted averages are used.

Re-computing the test statistic using the adjusted employment figures produces qualitatively similar distributional properties with increased significance (see TABLE 2). One-sided tests are now significant at the 95% level for the full sample as well as for both subsets. Employment creation during fund ownership is therefore not attributable to general labor market trends and industry-specific developments.

TABLE 2: COMPOUND ANNUAL GROWTH RATES (CAGR) OF REGULAR EMPLOYMENT UNDER FUND OWNERSHIP CORRECTED FOR INDUSTRY EFFECTS AND LABOR MARKET TRENDS (%)

	Mean	Confidence (95%)			Min	Max
		lower	upper	one-sided		
Full sample (n=184)	1.77 (0.0066)	0.48	3.07	0.69	-21.50	36.54
Subset ‘Teikoku’ (n=137)	1.47 (0.0074)	0.02	2.92	0.26	-21.50	25.49
Subset ‘Fund’ (n=47)	2.65 (0.0144)	-0.16	5.47	0.29	-16.12	36.54

Notes: Subset ‘Teikoku’ includes cases exclusively involving data from Teikoku Databank; subset ‘Fund’ includes all cases involving data obtained from funds.

A comparison of means of the full samples in TABLE 1 and TABLE 2 shows that the funds in our sample have invested in an industry mix of businesses with negative average employment growth. When applied to the entire holding period, the relative difference between employment figures before and after these adjustments becomes significantly different from zero (mean = 1.82pp, $CI_{90\%} = [0.63; 3.01]$). Thus, investments in industries with negative average employment growth can safely be claimed to extend to the population of buyout investments in Japan.

While these findings suggest that industry growth trends do not guide the general investment strategy of fund management, it is still possible that relative growth

potential is a selection criterion within industries. Consequently, a pre-/post-entry comparison of growth rates for the individual companies in the sample is required to answer our third question – whether funds are buying or creating employment growth. TABLE 3 lists three differentials of employment growth after minus before funds invested into the businesses. Subset A contrasts growth during the first year (365 days) past investment to the last year prior to investment. Subset B shifts focus to the second year under fund management, and subset C excludes cases involving data obtained from fund management.

TABLE 3: DIFFERENTIALS OF PRE-/POST-ENTRY EMPLOYMENT GROWTH AFTER ADJUSTMENTS (PP)

Reference period _{year} (subset)	n (€ 'Funds')	Mean	Confidence (90%)			Min	Max
			lower	upper	one-sided		
Entry ₁ – Entry _{.1} (A)	81 (7)	-0.64 (0.0262)	-4.95	3.68	-3.99	-112.1	50.9
Entry ₂ – Entry _{.1} (B)	65 (7)	5.66 (0.0291)	0.87	10.44	1.93	-74.7	78.7
Entry ₂ – Entry _{.1} (C)	58 (0)	4.68 (0.0312)	-0.45	9.81	0.68	-74.7	78.7

Notes: Composition of subsets A and B result from data availability; subset C corresponds to subset B less the cases involving data obtained from fund management.

Results indicate no significant change in employment growth during the first year of ownership (subset A), for which we cannot confirm a significant growth differential. This supports our earlier decision to exclude transactions with holding periods of up to one year. Results become more clear-cut when the second year of fund ownership is compared to the 12 months preceding entry. Here, a two-sided test is significant at the 90% level (subset B). Even after excluding the seven cases involving data from the Funds (subset C), we still find a one-sided test significant at the 90% level (at 0.68pp).

IV. Understanding Employment Change

Given the median holding period of 3.92 years, it is unsurprising that earlier growth (12 months prior to investment) is only weakly correlated (0.162) to compound annual employment growth under fund management. Correspondingly, a univariate regression with 106 degrees of freedom yields an R^2 of only 0.026 with a parameter estimate of 0.067 significant at the 90% level. With “acquired growth” only a minor influence, the data available from our set of micro data is used to further explore potential influencing factors.

As has become obvious from our comparison of pre-/post-entry employment growth, strategies aimed at boosting sales require time to play out in terms of employment. Adding to this initial time lag, standard economic theory also assumes that marginal effects of ownership/strategy change are decreasing over time. Taken together we expect smaller average growth in deals with very short as well as with very long holding periods relative to deals with medium-length holding periods. We capture this compound non-linear relationship in a categorical variable that regroups all sample cases by the time the corresponding businesses ultimately were subject to fund management, i.e., by their holding period (rounded to years; base category 1, 2, ..., 6 and 7+ years).

Although the dependent variable is corrected for general industry effects, the ability of funds to select growth potential may vary by industry. As the vast majority of fund managers hail from the financial sector, they may be at a relative advantage when it comes to making judgments about businesses in the financial sector. Accordingly, a ‘Finance and Insurance’ dummy is included.

Further controls are added for size (growth opportunities expected to be marginally decreasing), year fixed effects (owing to the time series nature of the dataset), as well as dummies for “turnaround” deals (with more substantial job losses expected), fund type (*keiretsu*-type funds as base category versus non-*keiretsu* and foreign funds; with employment protection assumed to be strongest within *keiretsu* firms and of the least importance to foreign funds). Importantly, a corresponding dummy also controls for deals involving data obtained from funds, in order to test for potential selection bias. TABLE 4 documents estimation output.

TABLE 4: ESTIMATION OUTPUT FOR COMPOUND ANNUAL EMPLOYMENT GROWTH
CORRECTED FOR GENERAL INDUSTRY AND LABOR MARKET TRENDS

Variable	Estimate	t
(Intercept)	-0.0082	-0.191
HPr2	0.0600*	1.846
HPr3	0.0686**	2.348
HPr4	0.0817***	2.713
HPr5	0.0939***	2.887
HPr6	0.0747**	2.151
HPr7+	0.0562*	1.767
Sector finance	0.0757**	2.388
log(Staff _{t=0})	-0.0162***	-2.937
FE2001	-0.0050	-0.129
FE2002	0.0310	0.807
FE2003	0.0416	1.254
FE2004	0.0681**	2.125
FE2005	-0.0020	-0.059
FE2006	0.0354	1.091
FE2007	0.0528	1.593
FE2008	0.0482	1.389
FE2009	0.0255	0.680
FE2010	0.0461	1.283
FE2011	0.0867**	2.150
Turnaround	-0.0242	-1.255
Foreign fund	-0.0060	-0.295
Non-keiretsu	-0.0021	-0.131
Fund data (dummy)	0.0293*	1.729

Notes: n=184, multiple R²: 0.1906, adjusted R²: 0.0720, F-statistic: 1.607 on 157 DF, p-value: 0.0480

The overall model is significant at the 95% level. In spite of several categorical variables transformed into dummies, individual variance inflation factors are all well below 4 (the most conservative of the frequently suggested thresholds of 10, 5 and 4). Residual analytics (residuals vs. fitted, residuals vs. leverage, normal q-q, scale location and heteroscedasticity) did not indicate any major concerns. Three cases of potential outliers were re-examined, but no measurement errors were found.

The dummy-coded categorical variable capturing the non-linear relationship between length of holding period and employment growth produced significant estimates for the entire spectrum (HPr2 to HPr7+). More importantly, parameter estimates reproduce the hypothesized inverse U-shaped relationship: short-term fund involvement causes less employment growth than mid-term investments, and long-term holding periods show a depletion of improvement opportunities. Equally,

familiarity of fund managers with their own industry helps to tap a significant positive growth differential of 7.57pp for investee companies from the financial sector. Size equally proved to be relevant control, with an estimated negative differential of 1.62pp for every tenfold increase in size of investee companies. As regards year fixed effects, years 2004 and 2011 produce significant parameter estimates at the 95% level and years 2007 and 2008 are not very far off a significant estimate (pre-2001 and post-2011 cases were relegated to the base category to keep variance inflation at a reasonable level, each with <7 cases; see appended Table A). These findings suggest that most deals concluded in 2004 and 2011 benefited disproportionately from phases of general economic recovery (until 2008, chiefly under Prime Minister Koizumi, and until 2015 under Prime Minister Abe respectively). In turn, financing committed for years ahead may have helped a substantial number of deals concluded in 2007 and 2008 to fare significantly above the industry average considering the challenges faced in the post-Lehman shock years. Among the remaining controls, turnaround and fund types loaded with the expected signs, but did not produce significant estimates. In contrast, cases involving data provided by fund management were obviously subject to a self-selection bias with a positive premium of 2.93pp significant at the 90% level.

Robustness of Descriptive Results

In view of the selection bias identified above, our earlier evidence needs to be reconfirmed based on sample subsets not involving data provided by funds. Accordingly, we assess the composition of subset ‘Teikoku’ and subset ‘C’ as used for evidencing our second and third research questions (Tables 2 and 3) against the population. We do so by using the variables identified as significant in our explanatory model (Table 4) for estimating the baseline impact on subset means. Appended Table F provides the corresponding estimates. As it turns out, the estimated impact on sample means does not challenge our initial finding of positive employment growth in businesses under fund management.^{iv} Neither does it challenge findings on our second question – whether the growth identified is any different from general labor market trends.^v Equally, subset C providing evidence on our third question – whether funds are buying or creating employment growth – still holds.

While these checks thus raise no technical concerns with our findings, the most substantial corroboration of robustness is the strongly conservative measure of

employment used. In fact, between 1998 and 2015, the number of non-regular employees in Japan increased from 11.76 million to 19.79 million (headcount; +61%). During this period, on average 72% of the non-regular employees were part-time employees and temporary workers (*arubaito*), 16% were contract employees and 5% worked for temporary labor agencies. Contract and agency workers usually work full time with a limited time contract, while part-time workers and temporary workers (*arubaito*) work an average of 26.5 hours per week, 66% of a full-time equivalent (FTE) (Ministry of Health, Labor, and Welfare 2011). Thus, in 1998, non-regular workers amounted to 8.59 million FTE and in 2015 to 14.45 million. This corresponds to a CAGR of 3.35% of non-regular employees in addition to our finding of a mean of 1.77 CAGR for regular employment under fund ownership (see Table 2), making total job creation under private equity ownership well above 4% p.a.

V. Discussion

Our analysis provides substantial evidence on all four research questions (organic employment growth, selection effects, causality, and comparison to the overall economy). With regard to the first question, we identify a number of variables linked to employment growth in businesses under fund ownership: holding period (in a non-linear fashion); familiarity of the fund manager with the industry of the investee company; and size and timing of investments (vintage years 2004 and 2011).

The most important difference between the present results for Japan and earlier research on other economies is the finding of significant *positive* effects on employment growth. The one and only research reporting employment growth of similar magnitude is the study by Boucly et al. (2011) analyzing buyout investments in France. They report that employment grows by a cumulative 18% between the four years preceding the transaction and the four subsequent years, and by approximately 15% in the four years after buyout. Post-buyout employment growth is, however, concentrated among private-to-private transactions, where sellers typically are individuals or the founding families, as opposed to divisional buyouts, secondary buyouts, and public-to-private buyouts. The authors take this as first evidence that private equity funds may alleviate credit constraints for medium-sized private

companies, allowing investee companies to tap into pre-existing growth opportunities.

To test their hypothesis on our data, we re-run our analysis introducing dummies equivalent to the panels in Boucly et al. (2011). Here we find indications of a similar hierarchical structure, in which “take-private”-type transactions show the lowest gains in employment growth followed by divestments. The most substantial gains are made in private-to-private transactions, including secondary buyouts. Alas, parameter estimates for the corresponding dummy variables are not significant. Thus, Boucly et al.’s (2011) controls may also be relevant for an interpretation of our results. They cannot, however, explain the order-of-magnitude difference to findings from Anglo-Saxon economies.

To further put our findings into perspective, we next consider differences in the institutional environment, particularly the regulatory environment. In the literature, Japanese labor law, as interpreted by the courts, has been regarded not only as employee-friendly, but as effectively preventing any cutting of regular employment in situations other than near-bankruptcy (Araki 2005; Witt 2014). Thus, as a first conjecture, compliance with the regulatory framework may significantly reduce the negative part of the distribution of employment change.

A second conjecture builds on Guiso et al.s’ (2006) assumption that social norms are closely linked to preferences, which may lead to biased market decisions. There is an abundance of literature about variations in preferences across different institutional environments in general, and Japan-specific preferences in particular (see for example Katzner 2008). For instance, Japanese corporate culture has been likened to the ideal of a “company family” (Bhappu 2000). Companies are expected to act “benevolently” towards their employees and to secure their employment, while for their part employees commit themselves to the company (Glisby and Holden 2003; Hill 1995; Hofstede and Bond 1988;). What has since reached the status of a social norm by the 1980s builds on a history of labor struggle for the “protection of livelihood” in the early post-war period (Kishimoto 1968) and significant and lasting concessions from management in terms of employment stability the 1960s and 1970s (Hashimoto 1991). Thus, given the strong foothold of the social norm of employment protection in Japanese society, selling parties might be reluctant to “throw their employees to the vultures” and may eventually not sell their business to the highest

bidder, but to the buyer most likely to conform to the social norm of valuing employment. Our second conjecture, thus, understands fund managers as reacting to such preferences when adopting growth strategies in an attempt at reputation building.

Third, growth strategies might be relatively more profitable in Japan than elsewhere owing to differences in restructuring cost given the risks and costs associated with layoffs, which include a negative impact on staff morale and reputational damage arising from such disrespect of the social norm of employment protection.

To assess the extent to which these three conjectures explain the results of our study (13.4% organic employment growth after correcting for industry effects and labor market trends), we conducted a series of 30 interviews with management, fund ownership and unions in July 2014 and January 2015. Among the unions interviewed there were two industrial unions and two company unions, one of which had been founded as a reaction to the ownership change to a private equity investor. First, all interviewees agreed that legal constraints are not a major reason for avoiding job cuts as legislation and its application were less strict than usually portrayed (contradicting conjecture 1). Second, to lay off regular employees in order to maximize profits is not socially acceptable. This finding is consistent with conjecture 2. Third, concerns about their reputation cause fund managers to implement strategies leading to employment growth rather than cost-cutting measures. This taming mechanism is effective as well for Anglo-Saxon international investors active in Japan, which confirms that firm behavior may indeed depend on “sets of interlocking institutional arrangements within national economies” (Appelbaum et al. 2013:515).

There are several reasons for this latter aspect. Job cuts may have a highly negative impact on staff morale in the investee company owing to the few exit options available in the rigidly structured Japanese labor market. Similarly, layoffs impact negatively on the image of an investee company, which may translate into a substantial threat to sales growth. Furthermore, and likely most importantly, to be seen not to care about employees of an acquired company will substantially increase the cost of winning future deals for fund managers. Especially in the case of business successions, owners tend to care about the future of their company and employees, and therefore may even request a legally binding agreement not to lay off employees for two to three years after buyout (evidence for conjecture 2). Also, given the importance attached to

the banking system in Japan, financial advisors and commercial banks play a pivotal role in the sourcing of deals. As large layoffs would reflect badly not only on the fund manager, but also on the intermediary, fund managers have an incentive to refrain from layoffs in order not to jeopardize their future deal-sourcing capabilities. Besides the concerns of intermediaries pertaining to their own reputation, baseline profits of main banks directly depend on keeping and growing the investee company as their borrowers (evidence for conjecture 3).

To sum up, the social norm of employment protection has pervaded the strategizing of selling and acquiring investors to a most considerable degree. This is evident from the fact that investors in our sample concentrate on growth strategies even in the absence of labor representation. Thus, investor behavior qualifies as rational response to a social norm and their voluntary limitation to investee companies with little if any need for restructuring may partly explain the positive growth rates achieved during the holding period (appended Figure A indicates that there were hardly any cases with employment reductions beyond what can be achieved via fluctuation). For fund managers, sellers with continued business operations, and intermediaries alike these findings are consistent with profit maximizing motives as moderation in employment reductions pays off in terms of reputational gains and cost reductions (conjecture 3). In contrast, selling business owners as “carriers” of such social norm are unlikely to reap any future financial benefit from selecting buyers by their (moderate) stance on employment reduction. This indicates that their behavior might be guided by social preferences (conjecture 2).

Our interviews revealed two further cues to understanding the “growth blessings brought by vultures” in Japan. First, consistent with the finding that size is negatively related to employment growth (see TABLE 9), fund managers report that there is often little need to reduce employment. This is because the majority of deals are small to medium-sized companies (median number of employees at entry: 200), which not only tend to have less slack (owing to continuous margin pressure in vertical *keiretsu* groups), but also come with more ample potential for scale effects. However, even a tenfold increase in company size would reduce employment CAGR by a mere 1.62 pp (see TABLE 9), and thus only explains a minor fraction of the difference in growth between our findings and the figures reported for most Anglo-Saxon economies.

Second, specific to the case of corporate divestments, the parent company often adjusts employment within the group prior to the transfer of ownership. Doing so potentially increases the sales price by the equivalent of the restructuring costs avoided, including reputational risk incurred by sellers and acquirers.

Our fourth finding, of funds investing in an industry-mix with negative average employment growth, is consistent with their business logic as traders in second-hand businesses. With prices predominantly determined as multiples of gross profits, effecting the same absolute profit improvement to a poorly profitable business rather than to a well-performing business translates into a much larger gain for the investing fund. For example, increasing profits from 2 to 4% percent may well suffice to double value, whereas boosting profits from 10 to 12% will lead to a value gain of just about 20%.

VI. Concluding Remarks

This study provides novel evidence on four central issues. First, our descriptive analysis of Japanese businesses subject to a buyout transaction between 1998 and 2015 finds average organic growth in standard employment of 12.3% during holding period of (median: 3.92 years, mean: 4.31 years). Second, when corrected for industry-specific labor market trends, growth amounts to 13.4%. Furthermore, given the massive increase in non-standard employment during the period studied (+61% between 1998 and 2015), our estimate of employment under private equity ownership is highly conservative. Third, the study documents that fund managers investing in Japanese private businesses do not merely buy into existing trends, but cause change by creating a positive differential between pre- and post-buyout employment growth. Fourth, buyout funds in Japan bring about this substantial growth in industries with average negative employment growth, a finding consistent with theoretical predictions.

Our explanatory model identifies a number of variables with significant links to employment growth: duration of holding period; familiarity of the fund manager with the industry; size of the investee company; and vintage years 2004 and 2011. However, neither of these factors can explain why employment growth in Japan under fund ownership is so much higher than in other developed economies.

Whereas evidence from our series of interviews indicates that the regulatory framework does not effectively prevent job cuts, reputation was found to be relevant as a reflection on the widely accepted social norm of employment protection. This taming mechanism is especially relevant in the case of business successions where it ties in with anecdotal evidence on deals not awarded to the highest bidder. Fund managers who cut costs through employment reductions are risking access to future deals. Consequently, all parties involved have a strategic interest in growing employment – or at least, in avoiding layoffs. This supports our third conjecture on strategic behavior in fund managers: dominant growth strategies are arguably a reflection, less of preferences than of strategic motivation.

APPENDIX

FIGURE A: CAGR OF REGULAR EMPLOYMENT DURING HOLDING PERIOD BY ENTRY YEAR

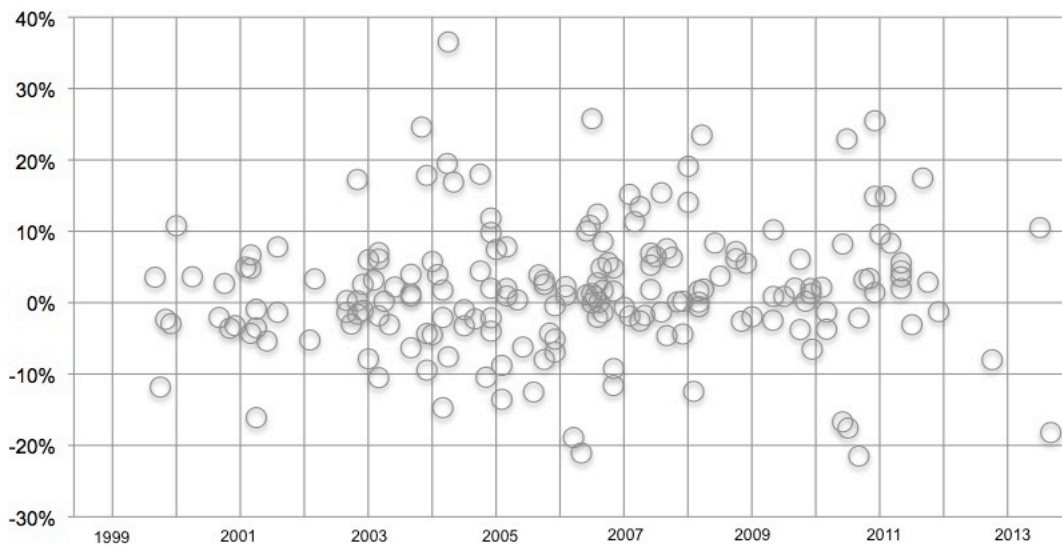


TABLE A: PROPERTIES OF DATA MATCHING AND INTER-/EXTRAPOLATION IN SAMPLE

		Mean	SD	SD (months)	Min	Max
<i>Matching</i> (days)	Entry	-10.9	132	4.39	-358	323
	Exit	-25.9	116	3.87	-354	237
<i>Inter-/extrapolation</i> (per cent)	Entry	0.83	7.54		-33.4	47.3
	Exit	-0.85	5.56		-61.8	15.3

TABLE B: SAMPLE COVERAGE OF POPULATION BY VINTAGE YEAR (YEAR OF ENTRY)

Sample coverage (n)	1999	2000	2001	2002	2003	2004	2005	2006
Full sample (184)	0.50	0.40	0.48	0.34	0.40	0.40	0.57	0.45
Subset 'Teikoku' (137)	0.13	0.27	0.19	0.31	0.33	0.30	0.38	0.32
Subset 'C' (58)	0.13	0.00	0.10	0.14	0.18	0.11	0.20	0.13
Sample coverage (contd)	2007	2008	2009	2010	2011	2012	2013	Total
Full sample	0.44	0.50	0.44	0.58	0.85	0.13	0.50	0.46
Subset 'Teikoku'	0.33	0.38	0.32	0.54	0.85	0.13	0.40	0.34
Subset 'C'	0.16	0.28	0.04	0.17	0.23	0.00	0.00	0.14

TABLE C: DISTRIBUTION OF DEAL SIZE AND HOLDING PERIOD

	N	Mean(log)	SD(log)	Median	Min	Max
<i>Deal size</i> (billion yen)						
Population	356	1.59	0.68	3.86	0.10	415
Sample	166	1.62	0.66	4.53	0.12	352
Subset 'Teikoku'	119	1.66	0.68	4.58	0.12	352
Subset 'C'	52	1.65	0.70	4.45	0.12	352
<i>Holding period</i> (months)						
Population (HP > 12 months)	383	1.64	0.230	43.4	13.0	224.0
Sample	184	1.66	0.228	45.4	13.0	144.0
Subset 'Teikoku'	137	1.68	0.231	47.7	13.0	144.0
Subset 'C'	58	1.78	0.169	59.9	25	144.0

Notes: Median calculated as $10^{\text{mean}(\log)}$.

TABLE D: COMPOSITION OF SAMPLE AND POPULATION BY
TYPE OF FUND AND TYPE OF TRANSACTION AND EXIT

Dimension	Category	Population (n=404)	Sample (n=184)	Subset 'Teikoku' (n=137)	Subset 'C' (n=58)
Fund type	Dependent (J)	0.51	0.55	0.47	0.41
	Independent (J)	0.33	0.28	0.30	0.34
	Foreign	0.16	0.17	0.23	0.24
Deal type	Divestment	0.28	0.32	0.28	0.33
	Turnaround	0.23	0.15	0.15	0.17
	MBO	0.16	0.20	0.21	0.24
	PIPE TP*	0.13	0.11	0.12	0.14
	Business succession	0.11	0.14	0.13	0.05
	Secondary buyout	0.07	0.09	0.09	0.07
	NA	0.02	0.01	0.02	0.00

*Private Investments into Public Equity (PIPE) occur when a buyout firm acquires stocks of a publicly traded company. If the acquired company is subsequently delisted, the transaction is referred to as "take private" (TP).

TABLE E: COMPOSITION OF SAMPLE AND POPULATION BY INDUSTRY (%)

Industry	Population (n=404)	Sample (n=184)	Subset 'Teikoku' (n=137)	Subset 'C' (n=58)
Bio/Health Care/Medical	5.20	6.52	5.84	8.62
Construction	2.97	3.26	4.38	0.00
Consumer Goods and Other Products	10.15	10.33	8.76	13.8
Electronics/Machinery/Automobile	15.10	20.11	24.1	22.4
Finance/Insurance	5.69	4.89	5.11	3.45
Food/Agriculture	7.67	10.87	9.49	8.62
IT/Telecom/Internet	7.18	5.98	5.84	3.45
Material/Chemical/Metal/Mining	6.19	5.43	5.84	5.17
Media/Publishing/Contents	5.45	4.35	3.65	1.72
Restaurant	3.71	4.35	3.65	1.72
Retail/Wholesale	10.64	7.61	7.30	8.62
Service	16.09	14.67	13.1	17.2
Transportation/Distribution	3.96	1.63	1.46	1.72

TABLE F: POPULATION AND SAMPLE SUBSET COMPOSITION
AND ESTIMATED BASELINE IMPACT

Dimension	Category	Population [†] (%)	Subset 'Teikoku' (n=137)		Subset 'C' (n=58)	
			Structure (%)	Impact (pp)	Structure (%)	Impact (pp)
Holding period (years)	2	17.49	13.14	-0.26	1.72	-0.95
	3	21.93	22.63	0.05	17.24	-0.32
	4	18.02	17.52	-0.04	25.86	0.64
	5	13.58	14.60	0.10	17.24	0.34
	6	7.57	7.30	-0.02	12.07	0.34
	7p	15.67	18.98	0.19	25.86	0.57
Industry	Finance/ insurance	5.69	5.11	-0.04	3.45	-0.17
Vintage	2004	13.12	11.68	-0.10	10.34	-0.19
	2011	3.22	8.03	0.42	5.17	0.17
Deal size (mean(log(value))) ^{††}		1.59	1.62	-0.05	1.65	-0.10
Sum of estimated impact				0.23	0.34	

Notes:

Subset 'Teikoku' as used in Table 2, subset 'C' as used in Table 3. Impact estimated as product of structural differentials and parameter estimates of Table 4.

[†] n = 383 for holding period >12 months, n = 404 for Industry and Vintage, n = 355 for Deal size

^{††} n_{Teikoku} = 119, n_C = 52

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- i The following studies report non-significant employment effects of buyout investments: Kaplan (1989), examining 48 buyouts of public companies; Smith (1990), considering 58 buyouts of public companies in the US completed between 1977 and 1986; Bruining et al. (2005), conducting questionnaire-based surveys in the UK (145 buyouts between 1994 and 1997) and the Netherlands (45 buyouts between 1992 and 1998); Amess and Wright (2007), analyzing 1,350 buyouts in the UK executed between 1994 and 1998; Amess and Wright (2012), researching 544 buyouts in the UK between 1993 and 2004; and Amess, Girma, and Wright (2014), studying 232 buyouts in the UK between 1996 and 2006. Bacon, Wright, and Demina (2004) conducted a questionnaire survey among buyouts and buy-ins the UK with a transaction value of at least £5 million that had been completed in the period 1994–7. Out of 145 firms, 60% indicated that the total number of employees increased compared with pre-buyout, 19% that employment stayed the same and 12% that it decreased.
 - ii This test, however, does not preclude the possibility of self-selection among participating funds (see discussion of robustness in section 5).
 - iii See also sections IV and V. Deals with holding periods < 1 year known as “flip-deals”. Buyout funds merely act as business brokers aiming to identify a strategic buyer for the acquired business, but do not systematically engage in restructuring efforts.
 - iv The one-sided 90% threshold for total employment growth during the holding period figures a magnitude higher at 7.99pp.
 - v While the 95% threshold for subset TDB given in Table 7 reduces to a mere 3 basis points, an expansion of the measure to the entire holding period brings the 95% threshold to about 3pp.