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9. June 2015

Online at <https://mpa.ub.uni-muenchen.de/66695/>

MPRA Paper No. 66695, posted 18. September 2015 00:26 UTC



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**Working Paper Series in Social Science of Japan**

**No.03/2015**

## **Not a Coincidence: Sons-in-Law as Successors in Successful Japanese Family Firms**

Georg Blind and Stefania Lottanti von Mandach<sup>1</sup>

### **Abstract**

Vikas Mehrotra, Randall Morck, Jungwook Shim and Yupana Wiwattanakantang (2013; hereafter MMSW) observe that listed family firms on average outperform non-family firms in Japan between 1962-2000. They suggest that this finding can be explained by the practice of adult adoptions and, to a lesser degree, by arranged marriages. Their argument centers on a positive performance differential between non-blood and blood heirs.

We cannot exactly replicate MMSW's research, because the authors do not share their data. However, we identify methodological concerns with the evidencing of this differential and show how conceptual considerations reduce their argument to that of arranged marriages. Regardless of any differential we propose another interpretation for the superior performance of businesses run by non-blood heirs and identify indicative evidence for this.

[123 words]

**Keywords:** Japan; family firms; outperformance; adoptions; arranged marriages.

**JEL codes:** G3, J12, N25, Z130

### **1. Introduction**

“Japan represents a special case” is a statement frequently found in the economics literature (Nicholas Kaldor 1975; Bradford De Long 1988; Kent Calder 1993; Paul Cavelaars 2005; Stefania Lottanti von Mandach 2014). While Japan may effectively be different in some respects (Eric Girardin and Zakaria Moussa 2011; Georg Blind 2012), there is a tendency among Japanese and non-Japanese scholars alike to attribute deviations from some “Western mean” to that country’s cultural uniqueness (Ronald Dore 1987; Charles Hill 1995; Donald Katzner 2008). The authors of "Adoptive Expectations: Rising Sons in Japanese Family Firms" (Vikas Mehrotra, Randall Morck, Jungwook Shim and Yupana Wiwattanakantang 2013; hereafter MMSW) also refer to a “unique setting” of institutions (p. 841) in interpreting the observation that listed family firms on average outperformed non-family firms between 1962 and 2000.

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<sup>1</sup> The authors would like to thank Masahiro Kotosaka and Zenichi Shishido for insightful discussions. We are grateful to Yumiko Nakamura for providing most valuable research support.

Specifically, MMSW suggest that the Japanese practice of adult adoptions, potentially combined with arranged marriages, provides the basis for three performance-enhancing mechanisms:

Mech. 1: Adopted non-blood heirs displace the least talented blood sons.

Mech. 2: The availability of a non-blood heir “job”, i.e., the perspective of becoming adopted, motivates professional managers to excel.

Mech. 3: The threat of being replaced by adoptees motivates blood sons.

We agree that non-blood successors may be better performers if selected for talent through arranged marriages. We are skeptical, however, as to whether the other two mechanisms actually apply.

We further agree with MMSW that causality is not clear. While non-blood heirs might actually cause good performance, the converse is also possible. Here, MMSW suggest that aging patriarchs “might pass healthy firms to beloved sons, who might more earnestly covet control of healthier firms” (2013: 848). We do not understand how this could represent converse causality, as it would imply that blood heirs should be found to lead more successful companies (contrary to the MMSW observation). Instead, such a converse causality hypothesis would need to explain why more profitable companies more frequently attract non-blood successors. We will revert to this issue later (section 4).

To clarify this endogeneity problem and to provide evidence for their hypothesis, MMSW opt to study the performance impact of succession events. In doing so MMSW find that passing on a family business to a non-blood heir leads to significantly stronger performance improvements than successions to blood sons. We have, however, various methodological concerns with regard to how MMSW treat the sample of these succession events.

For later reference, we briefly summarize the MMSW observations:

Obs.1: Family businesses outperform non-family businesses during 1962-2000.

Obs.2: Family businesses led by non-blood heirs outperform those led by sons during 1962-2000.

Obs.3: Succession to non-blood heirs leads to relatively stronger performance increases.

In essence, MMSW claim that Obs.2 explains Obs.1 through the performance-enhancing mechanisms illustrated above. MMSW rely on Obs.3 for clarifying the causality of Obs.2.

We structure our contribution as follows. We start by illustrating our methodological concerns with regard to the analysis underlying MMSW Obs.3 (section 2). Moving on, we propose an adapted interpretation of MMSW Obs.3, if it still holds after our methodological concerns have been addressed (section 3). Building on reverse causality we also propose another hypothesis for explaining MMSW Obs.2. As we

demonstrate, our hypothesis may in fact complement the MMSW argument of non-blood heirs being selected for talent (section 4). Moving on, we present evidence that contradicts Obs.1 and Obs.2 during the last decade of the MMSW observation period. Here, we propose a dynamic perspective that allows for a consistent interpretation of these contradicting observations. We conclude with a number of suggestions and reflections (section 6).

## **2. Methodological concerns**

For evidencing Obs.2 that non-blood successors are causing superior performance in listed Japanese family firms, MMSW first construct a sample of 915 succession events, distinguishing four types of successors: blood heirs, non-blood heirs, professional CEOs under family equity control, and outsiders with the family cashing out. From this original sample they exclude some 231 cases for missing data on family trees, another 124 cases where incoming or outgoing “placeholder professional CEOs” are involved, and yet another 117 cases where successions recur within less than seven years, a time span well beyond the average tenure of Fortune 500 CEOs, calculated at 4.6 years (Steven Kaplan and Bernadette Minton 2012). These omissions leave the sample at less than half its original size, namely at 425 cases. While all researchers are familiar with the problem of missing data, the last two of these exclusions require appropriate rationales - yet none are provided. In their “robustness” section (4.4 on p. 850), MMSW partially make up for this, as they show that re-including data from the second omission (placeholder professional CEOs) still yields “qualitatively similar results”. The third omission (successions recurring within less than seven years), however, lacks both a rationale and a corresponding robustness check.

Now if there was a systematic relation between CEO tenure and performance, the implied risk to the significance of their results is substantial. For instance, let's assume that CEO performance systematically declines with tenure. In that case the omitted part of the sample is biased towards cases with smaller improvement opportunities as businesses are operating closer to their potential. Now, smaller improvement opportunities imply that a statistically significant difference between successions to sons and non-blood heirs is less likely to be found.

In fact, such a systematic relation between CEO tenure and performance has earlier been conceptualized (Donald Hambrick and Gregory Fukutomi 1991) and positively tested in several instances (Danny Miller 1991; Danny Miller and Jamal Shamsie 2001; Andrew Henderson, Danny Miller and Donald Hambrick 2006; Thorsten Wulf, Katie Roleder, Stephan Stubner and Jutta Mischke 2011). In these studies, CEO performance is generally found to decline after a few years in office. Thus, the odds of successors creating a “positive performance event” increase with the tenure of their predecessors.

The systematic relation between CEO tenure and performance also gives rise to concern pertaining to the remaining sample of succession events: MMSW only partially control for the tenures of predecessors, that we call ‘micro time’, by introducing a dummy variable for parting CEOs aged 65+. While age arguably represents a covariate of tenure, actual correlation might be low. Direct measures such as predecessor tenure at succession (or the log of it) would be preferable.

This control is important because we expect differences in the distribution of ‘predecessor tenure’ for blood and non-blood heirs. To substantiate the risk of such bias, it helps to consider potential succession patterns. Most commonly, successions are *between* generations. In contrast, sequential successions within less than seven years are most likely occurring *within* a generation. Here, the absence of a male blood heir is one obvious reason for such intra-generational successions: The parting head hands over to his younger brother or other family member until a suitable son-in-law can be found, be prepared for the job, and eventually becomes able to take over. If this pattern is a pertinent explanation for short-term sequential succession events, the omitted part of the sample will show a corresponding bias toward non-blood heirs. In a similar vein, an acting head of a family business may be more hesitant before handing over control to a non-blood heir, not least because the organizational tenure of sons-in-law is lower than that of blood sons, who were ‘born into the business’.

Now, if average predecessor tenures were indeed longer for non-blood heirs in the MMSW sample, they would benefit from relatively greater improvement opportunities. Put briefly, without sufficiently controlling for predecessor tenure we cannot exclude the possibility that the superior performance of non-blood heirs during the two years after taking office documented in the MMSW study of succession events (MMSW Obs.3) was merely due to their entering firms that offered more opportunities for improvement. Moreover, introducing such control might also be helpful when re-including the omitted 117 cases of succession events: While introducing a control variable may absorb some explanatory power, improved model specification *ceteris paribus* leads to tightening confidence intervals for parameter estimates.

### **3. Alternative interpretations**

Let’s suppose that MMSW Obs.3 of superior performance of non-blood heirs during the two years after taking office holds in a robustness check that includes the 117 omitted cases and controls for the tenure of predecessors. Could the institution of adult adoptions then really explain MMSW Obs.1 of superiorly performing family businesses during 1962 – 2000? According to MMSW, adult adoptions represent an “exceptionalism” (p. 841) deeply rooted in Japanese tradition and originating in pre-modern Japan. The principal purpose of this tradition has been to preserve the patrilineal household (the *ie*).<sup>2</sup> Such

<sup>2</sup> The *ie* has been defined as a social framework designed to continue over generations, under which an inherent family homestead, family name, and business are passed on from father to the eldest son (blood or non-blood) along a paternal line.

understanding of the *ie* then serves to derive “high powered incentives”, namely (Mech. 1) that the least talented blood sons are replaced by adoptees, (Mech. 2) the “immense reward” of “becoming a business patriarch’s new ‘number one’ son” on the part of professional managers as potential adoptees (p. 843), and (Mech. 3) the threat to blood sons of being labeled a “disappointing” son (p. 844) and of being replaced by a more capable non-blood heir if they were not to try hard enough. Naturally, for Mech. 1 and Mech. 3 to be effective, there needs to be a blood son to be replaced in the first place.

It is important to note that the concept of *ie* is a hotly debated matter in the sociology of Japan, with voices becoming increasingly critical and a number of scholars even labeling the *ie* system an ‘invented tradition’ (Chizuko Ueno 1996; Roger Goodman 2008). In their article, MMSW provide a most comprehensive introduction to the system of *ie*, largely based on the received *pre-war* understanding of the concept. Whereas MMSW argue in favor of a persisting relevance of the concept in *post-war* society, we do not share their view. Significantly, in 1947, revisions to the civil code abolished a number of its core functions, notably the pre-war civil code procedure of a package adoption-marriage (*muko yōshi*). Subsequently, strong economic development and substantial societal change have further weakened its relevance during the following decades (Haruo Matsubara 1969; Ronald Rindfuss, Minja Kim Choe, Larry Bumpass and Noriko Tsuya 2004; Joy Hendry 2010).

To complicate things even further, many post-war sources continue to refer to sons-in-law as *muko yōshi* (lit. “adopted sons-in-law”), also in cases where sons-in-law have changed their last names for corporate identity reasons, or even when they simply assume a management role in the business of their father-in-law. As neither of these cases is necessarily linked to an adoption, risk of confusion abounds.

To corroborate the relevance of the *ie* system in post-war Japan, MMSW point to a sustained increase in the total number of adult adoptions from 67'158 in 1965 to 84'175 in 2002 (Table 1, p. 842). Now, these numbers certainly stand in contrast to the fading *ie* tradition that we have illustrated. To resolve this seeming contradiction, we propose an alternative route of explanation for the rising number of adult adoptions by illustrating underlying motivations for adult adoption in post-war Japan.

According to Taimie Bryant (1990) the most rapidly growing use of adoptions in contemporary Japan is for the purpose of reducing inheritance taxes. Incentives to do so are substantial: firstly, even small land holdings are extremely valuable, and second, the chance of a tax evasion challenge is slim (*ibid*). A look at the 2014 inheritance tax table (Appendix) shows that the administratively simple and low-cost procedure of adopting sons- (and daughters-) in-law still comes with a net tax benefit of JPY 23.5 million in cases where assets of more than JPY 300 million are transferred. This is because Japan does not tax the inheritance as a whole, but applies the progressive rate separately to each individual share. During

the MMSW observation period, benefits used to be even higher, as maximum tax rates figured at around 70% (Noriyuki Kikuchi 2005: 60-64).

Based on this alternative understanding of adult adoptions, we expect marriage to precede adoption in the vast majority of cases. Firstly, the *ie* system with its narrow purpose of securing the patrilineal household has been in constant decline since the end of World War II. Secondly, we have found tax avoidance to be the major motivation for adult adoptions. Thus, adoptions should typically follow a(n) (arranged) marriage as a rational by-product.

In contrast, starting from their title and their general exposition, MMSW suggest that marriage is secondary. Unfortunately, MMSW do not specify the marriage-adoption order for the 40 cases involving marriages (out of the 42 cases in their sample). They do, however, refer to seven specific cases as examples throughout their text. After checking the order of marriage and adoption events for these cases, we cannot confirm a single instance of adoption preceding marriage, and find four cases not involving adoptions at all. Moreover, the three cases involving adoptions took place before the MMSW investigation period. Specifically we find that:

- Cases 1-3: Both Takeo Atsumi, and Rokurô Ishikawa were simply sons-in-law of Morinosuke Kajima (of Kajima Construction), but were never adopted (President 2014). Morinosuke himself married a Kajima daughter and became adopted simultaneously, when the old civil code was still in force in 1930 (Nikkei 1980).
- Case 4: Masaharu Hirata (Panasonic) married and also became adopted simultaneously via the old system in 1940 (Yasunori Tateishi 1992).
- Case 5+6: Osamu Matsuda (Suzuki) married a Suzuki daughter in an arranged marriage in 1958 and became adopted the same year (WHC 2013). Hirotaka Ono married Osamu's daughter, but was never adopted (Toyo Keizai 2007).
- Case 7: Akira Hotta married Masako Uehara (Taisho Pharmaceuticals) in 1974, changed his name to Uehara in 1975, and joined Taisho in 1977 (Nikkei Business 2009).

Now, if this absence of adoptions is representative of the remainder of the MMSW sample<sup>3</sup>, their research essentially is about arranged marriages, not about adult adoptions. Accordingly, arranged marriages would then serve as an extended HR strategy for injecting management talent. As the market for experienced managerial hires has been very tight in Japan (Mariah Cheng and Arne Kalleberg 1996), this route of explanation would make considerable sense.

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<sup>3</sup> Provided that the 4 example events from the investigation period were selected independently, the 90% binomial proportion confidence interval for the likelihood of zero (!) cases of adoption for the n=40 cases in MMSW's sample is [0.77; 1.00].

At the same time, however, eliminating the adoption part of the explanation implies that MMSW's "high-powered incentives" (Mech. 1-3) are much less effective. This is because the availability of the "real option" of marriage is obviously subject to more constraints as opposed to adoptions:

Constraint 1: The HR tool of arranged marriages is only available to patriarchs with daughters.

Constraint 2: Daughters must be willing to accept arranged marriages.

Constraint 3: Becoming a patriarch's son-in-law is an option only available to non-married professional managers.

Constraint 4: Talented professional managers must be willing to accept a marriage partner.

How do these constraints reduce the effectiveness of Mech. 1 to 3? Constraint 1 reduces the effectiveness of all three incentive mechanisms: Replacing a poorly talented blood son, incentivizing professional managers, and threatening blood sons through the risk of displacement all depend on having a daughter. As a matter of fact, 40 of the 42 parting patriarchs in the MMSW sample *did* have a daughter who eventually married the successor. Thus, we wonder whether the remaining two non-blood heirs (who did *not* marry a daughter) were possibly adopted by patriarchs who did not have a daughter? Or did they have no offspring at all?

With regard to Constraint 2 (consent of female offspring to arranged marriages), Mech. 1 and 3 may apply if the patriarch has female offspring. In the MMSW sample, Mech. 1 and 3 are not effective in about half the cases of successions involving non-blood heirs for the simple reason that there were no sons to be displaced (Footnote 16 on p. 849 in MMSW).

Constraint 3 limits the effect of Mech. 2, because this option is only available to non-married professional managers. From the patriarch's perspective, the availability of the option of an arranged marriage decreases with time (age of daughter as well as age and share of unmarried candidates), which, in turn, is not the case for adoptions. As MMSW rightly note, "the grooming of a successor likely begins years before the actual succession event" (p. 848). As such grooming will not go unnoticed, the effectiveness of Mech. 2 and 3 are strongly reduced as the "prize of marriage" becomes unavailable and the threat of displacement materializes early on.

Finally, Constraint 4 reduces Mech. 2, because not all professional managers might be eager to marry a daughter of the patriarch.

Let us briefly recapitulate. We strongly doubt whether the incentive mechanisms proposed by MMSW are causing significant effect. This is because adoptions typically only come about as a rational by-product of a previously decided marriage, in cases where sons-in-law are still being adopted at all. This leaves us with arranged marriages to explain the superior performance of sons-in-law in succession events (Obs.3), if it eventually was to hold after the methodological concerns raised in section 2 have been addressed.

Replacing the adoption part of the explanation with arranged marriages, however, reduces the effectiveness of the MMSW “high-powered incentives” (Mech. 1-3), because the availability of the “real option” of marriage is subject to more constraints than in the case of adoptions.

#### **4. Turning arguments around: converse causality**

Section 3 still leaves unexplained MMSW Obs.2 of family firms run by non-blood heirs outperforming those run by the sons of patriarchs in their long-term sample. Here, we suggest considering the possibility of converse causality. Whereas MMSW hypothesize that non-blood heirs cause superior performance, it might actually be worth looking into whether businesses with superior performance are more likely to attract non-blood successors.

For understanding how such selection effect may come about, it is key to understand that (arranged) marriage represents a family affair involving several parties: patriarch, daughter, blood son, and prospective son-in-law. Let us look into how their incentive structures depend on firm performance. To start with, the outsider - or the supply side of such a “transaction” as MMSW refer to it, will obviously find joining a healthy business a much more attractive opportunity than a turnaround situation. Critics may argue that the latter should represent an equally attractive bet to aspiring management talent. However, we agree with MMSW's earlier view that ‘uncertainty avoidance’ is a strong characteristic of Japanese culture (2011). Moreover, such a bet would not only refer to the make or break of a turnaround, but to the viability of an entire career. This is because joining a family business as a son-in-law is tantamount to a point of no return, due to the rigidity of the Japanese labor market in general, and the segment of management talent in particular (Cheng and Kalleberg 1996).

A similar argument applies to the patriarch: Japanese society has been characterized as a culture of shame (Takie Sugiyama Lebra 1983). Obviously, approaching a potential successor when the firm is struggling or underperforming is rather shameful, even for the Western business leader. Whereas the latter still may argue that it was not his fault, for a Japanese individual being actually responsible or not does not change the feeling of shame. Moreover, while candidates for (arranged) marriages can potentially become family members, they and their respective families are still outsiders when the selection process starts. Shame also dictates which information is considered appropriate to be shared with members of an out-group, and which is to be kept among members of the in-group<sup>4</sup>. Clearly, information pertaining to a patriarch’s failure in managing his business belongs to the latter category. Correspondingly, a parting patriarch will tend to keep the management of a less successful business inside the family.

Motivations of the daughter require closer inspection. Popular accounts of the struggling family business frequently portray the image of a loyal daughter agreeing to the sacrifice of an arranged marriage to save her father’s legacy. The Confucian value of *filial piety* suggests that such motivation may indeed be

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<sup>4</sup> The distinction of in-groups and out-groups corresponds to the concept of *uchi* and *soto* in Japanese sociology.

present. However, these accounts typically refer to cases where a son-in-law brings assets rather than talent. And with arranged marriages representing “transactions”, such asset transactions predominantly apply to smaller businesses, where limited funds suffice to achieve turnaround. In contrast, the large-scale listed companies in the MMSW sample will typically struggle with profitability, but not with funding. And if they struggle with capital procurement, assets from a private individual are unlikely to suffice. Moreover, the *shame* aspect in such a context becomes stronger as the daughter (rightly) understands herself as an item in asset bargaining. In contrast, if the family business is healthy and well performing, shame is not an issue. Also, the pool of candidates available for an arranged marriage increases with profitability and so do real options from the perspective of daughters. In concrete terms, the likelihood of finding a candidate whose attractiveness matches or exceeds that of an “average” love marriage strongly increases. Japan is no exception to gender-asymmetric spouse-selection: Japanese women have had a strong desire to improve (or at least maintain) their socioeconomic status via marriage, and therefore prefer to marry of similar or higher status (Masahiro Yamada 1996).

Finally, blood sons may play a pivotal role in solving the puzzle. To understand how their incentive structure depends on the profitability of the family business, we first look into the upper half of the performance distribution. From MMSW data on p. 848 (Table 3) we understand that assets of listed family businesses average some 120bn yen and annual returns amount to about 5bn yen, or around 40 million USD at 2015 exchange rates. When families hold at least a controlling stake, and with executive remuneration still at very low levels in Japan (Steven Kaplan 1994; Minoru Nakazato, Mark Ramseyer and Eric Rasmusen 2009; Georg Blind and Stefania Lottanti von Mandach 2013), the trade-off faced by blood-sons is, rather, the following: earning a decent share of profits (likely several million USD in healthy businesses) and enjoying a leisurely life vs. working hard in a possibly unattractive job, just to earn an additional 300 thousand USD at best (for reference: during 1986-1995 average annual CEO remuneration was about 33 million Yen, or about 260'000 USD; Takao Kato and Katsuyuki Kubo 2006). Quite clearly, this is a story about reservation wages, particularly so in large businesses and/or in cases with high family stakes. In contrast, in low-performing and/or small businesses the ratio of executive remuneration to capital income changes entirely. A few hundred thousand USD relative to little or nothing are reason enough to strike out on the successor path. Even more so when considering that future discounted cash flows will predominantly depend on capital income.

Summing up this review of the family incentive structure, we find that patriarchs, daughters, prospective in-laws, and blood sons alike will be more inclined to consider succession to an outsider if the business concerned is well-performing. Now, how could this hypothesis be confirmed? First evidence could be derived from looking into absolute profitability prior to succession: are businesses that are handed over to sons-in-law significantly more profitable? However, as MMSW rightly note “the grooming of a successor

likely begins years before the actual succession event” (p. 848). Thus, performance at succession arguably correlates only weakly with performance at the time of marriage. Comparing absolute performance at marriage with the industry average would provide a more reliable test statistic.

MMSW data actually delivers first indications that our argument of reservation wages holds: From Table 3 (p.848) we understand that businesses run by sons-in-law have 45% more assets on average. Also, the family ownership is some 19% higher. More assets and higher family stakes mean higher capital income, which directly translates into higher reservation wages.

### **5. Making sense of contradictory evidence: “The fundamental things might *not* apply, as time goes by”**

Previous research (Takuji Saito 2008) indicates that MMSW Obs.1 of a generally superior performance of family businesses over non-family businesses might not apply any more during the last decade of the MMSW observation period (1962-2000). Examining Tobin’s Q for a sub-period (1990-1998), Saito finds the performance of family firms owned and managed by blood and non-blood family members (excluding the founder) to be even *inferior* to that of non-family firms. Also, Saito finds that the performance of family firms managed by sons-in-law is *inferior* to that of family firms managed by blood sons. Using a different approach (matched pairs of family and non-family firms) and focusing on return indicators, José Allouche, Bruno Amann, Jacques Jaussaud and Toshiki Kurashina (2008) still find some evidence for a general superior performance of Japanese family firms in 1998, but any more in 2003. Moreover, ongoing research efforts (Zenichi Shishido, Noriyuki Yanagawa, Takuji Saito and Hokuto Dazai 2014) split the MMSW observation period into three sub-periods: 1962-1985, 1986-1992, and 1993-2000. Using a broader sample and relying on a differences-in-differences method they find that non-blood heirs outperformed non-family firms in ROA only during the first sub-period.

How could these contradictions possibly be explained? Obviously, any differential such as the performance difference between family businesses and non-family businesses are difficult to analyze for the simple reason that change might occur on both sides of the equation. In our view, it is much likely that significant change actually has occurred on both sides during the 38 years of ‘macro time’ in the MMSW sample. This is because Japan has not only seen economic extremes from catch-up growth to decades of stagnation, but has also undergone fundamental structural, institutional and societal change. MMSW aptly account for the economic dimension of change by using first differences for measuring performance in their study of succession events. In contrast, they do neither address structural and societal change that potentially have had an impact on family businesses, nor institutional change pertaining to non-family businesses. Closer inspection, however, reveals significant change in all these dimensions.

Firstly, structural change: During the four decades of the MMSW sample, a great many of Japan's family businesses have seen a transition in leadership from founder to subsequent generations with less and less family businesses being newly listed (as can be inferred from Figure 2 in MMSW 2013) In the course of this process, family ownership decreases generation by generation (Saito 2008: Table 6 on p. 632) due to capital increases and partial cash-outs. Now, this has important effects on the profitability of family businesses: As Allouche, Amann, Jaussaud and Kurashina (2008) compellingly document, the level of ownership is an important determinant of the performance in Japanese family firms. As a matter of fact, MMSW Table 3 actually provides indicative evidence for such 'tighter grip' explanation: For the four categories of firms run by founders, blood heirs, non-blood heirs and salarimen, ROA and family ownership show a correlation of 89%. Taking this evidence together, we understand that structural change points to family businesses losing their edge over non-family businesses.

Secondly, societal change explains why sons-in-law may not outperform blood sons any more. Japan is no exception to the global trend to prefer chosen marriages to arranged ones (Mehrotra, Morck, Shim and Wiwattanakantang 2011), but the pace and magnitude of this decline may definitely be considered exceptional (Figure 1, below). Obviously, it is becoming increasingly difficult – or less acceptable – to use arranged marriages as an HR strategy. Accordingly, an increasing number of sons-in-law running a family business are not primarily being selected for management talent anymore. If love is randomly distributed, the expected talent of sons-in-law is not different from the talent of blood sons anymore. This would provide a direct explanation for sons-in-law losing their lead over blood sons as reported by Saito (2008). At the same time, it may also contribute to explaining whether family businesses are losing their general performance lead: With arranged marriages on the decline, family businesses are facing the withering of a strategic HR advantage that they once may have had over non-family businesses.

[Figure 1 here]

Thirdly, institutional change, namely legislative reform in the wake of the burst bubble, reportedly has impacted on the non-family business side of the performance differential, as it helped to strengthen corporate governance in non-family businesses (Takeshi Inagami 2001; Gregory Jackson and Andreas Moerke 2005; Amon Chizema and Yoshikatsu Shinozawa 2012). With the performance of non-family businesses improving relative to that of family businesses, we have another factor indicating that family businesses might be losing their lead over non-family businesses in Japan.

Taking the evidence on these three dimensions of change together, we are inclined to believe, that the performance differential has become smaller during the MMSW observation period. Admittedly, the contradictory evidence presented relies either on different methodology, different indicators, different

samples, or a combination of these. Here, the MMSW long-term sample would allow authoritative evidence on long-term trends of the performance differential. For instance, how would a graph plotting the performance ratio of family over non-family businesses over time actually look like?

## **6. Summary and Conclusion**

In their article "Adoptive expectations: Rising sons in Japanese family firms" Mehrotra, Morck, Shim and Wiwattanakantang (2013) explain the superior performance of listed family-run firms in general, and the superior performance of firms run by non-blood heirs in particular, by referring to two culturally specific institutions: first and foremost to adult adoptions and, to a lesser degree, to arranged marriages. They propose that adult adoption in family businesses leads to performance enhancement through three mechanisms: (Mech.1) non-blood heirs displace the least talented blood heirs in about 10% of businesses; (Mech.2) the prospect of a "non-blood heir job" motivates professional managers in family-run businesses; (Mech.3) the threat of being replaced motivates blood heirs.

We have both methodological and conceptual concerns with regard to MMSW's proposition and analysis. Methodological concerns pertain to the exclusion of 117 cases from the sample of succession events (reducing effective sample size by 22%). As predecessor tenure (or 'micro time') is arguably systematically linked to performance, their finding of non-blood heirs outperforming blood-heirs becomes questionable. Conceptual concerns refer to the allegedly performance-enhancing function of adult adoptions.

Reviewing the practice of adult adoptions in section 3 we find that adoptions in post-war Japan are predominantly a by-product of marriages (both arranged and for love) as they serve to cash in on significant tax benefits. Arranged marriages, however, are subject to considerably more constraints as compared to adoptions. Accordingly, the MMSW incentive mechanisms will be significantly less effective than suggested. Adding to these concerns, we see arranged marriages as losing most of their potential effect on performance in the course of the MMSW observation period: The share of arranged marriages has dramatically declined over the last decades. As a matter of fact, this decline coincides with the evidence on non-blood heirs losing their lead over blood heirs by the mid-1980s presented in section 5.

Against this background, we doubt whether MMSW Obs.2, namely the superior performance of the about 10% of family businesses run by sons-in-law, suffices to fully explain MMSW Obs.1 of listed family firms outperforming non-family businesses in general. Here, the argument of the tighter grip that family control used to have on business compared to non-family firms represents a more convincing line of explanation.

If MMSW Obs.3 of superior performance of non-blood heirs in succession events loses significance after our methodological concerns are addressed, how could one possibly explain the average superior performance of businesses led by non-blood heirs (Obs. 2)? To that end we have proposed an alternative hypothesis in section 4 that centers on the incentive structure of individual family members. Embracing the possibility of converse causality, it explains how healthy firms are more likely to attract non-blood successors. In essence, we argue that patriarchs, daughters, prospective in-laws, and blood sons alike are more likely to consider an arranged marriage if the business concerned is well-performing.

Our hypothesis also accommodates the decline of arranged marriages in Japan in the incentive structure of blood daughters: if they marry for love, the managerial talent of their future spouse is not the decisive factor. Accordingly, evidence on gradually decreasing performance differences between businesses run by sons vs. sons-in-law matches our expectation. From the perspective of investors in Japanese equities, news on marriages arranged for talent should provide valuable information on the intrinsic value of the business concerned.

Importantly, our hypothesis is not a strict alternative, but conceptually complements the MMSW conjecture: at least in the first half of the MMSW observation period, more successful businesses may have shown a higher likelihood of selecting talented sons-in-law via arranged marriages, causing such successful businesses to perform even better.

To judge whether our hypothesis complements or replaces the MMSW conjecture, addressing the methodological concerns raised in section 2 is key. We suggest re-running the analysis of event studies including the omitted cases and controlling for predecessor tenure. If differences between blood and non-blood heir performance were still significant, we would then have evidence of successful use of arranged marriages as an HR strategy. We also suggest looking into change over ‘macro time’: How are the 42 non-blood successions in the MMSW sample distributed over time? And how has the performance differential between family and non-family businesses evolved during the 38 years of their observation period? The former would allow for checking whether arranged marriages as HR strategy have become, as arranged marriages in general, essentially a story of the past. The latter, in turn, would shed light on the question whether family businesses are still outperforming non-family businesses in Japan.

Regardless of the outcome of these tests it would be insightful to learn whether MMSW’s data adds further evidence to our converse causality explanation. So far we have found indicative evidence for our argument pertaining to the reservation wages of blood sons: businesses run by sons-in-law have significantly larger assets and founding families hold larger stakes. Both variables directly relate to the capital income of blood sons. Notably, MMSW data would allow checking whether the businesses handed over to sons-in-law were significantly more profitable at time of succession. Moreover, MMSW might

also use their biographical data to test performance at the time of marriage, which would provide the best possible evidence.

Finally, there is one more intriguing question that we cannot help wondering about: Were the two adoptees in MMSW's sample who did *not* marry a daughter, possibly adopted by patriarchs that did not have any offspring? If not, i.e., if those patriarchs actually had some offspring, did the adoptees inherit a fair share of assets?

To conclude in a general vein, we would like to share our view on how the issues identified here could possibly arise. To us, it seems that an inadequate consideration of socio-economic change lies at the heart of this. While the assumption of time invariance is arguably safe in cross-sectional designs, it becomes potentially hazardous in longitudinal investigations. This is particularly the case when the economic phenomena under investigation are linked to a value system or the institutional framework, and even more so when the object of inquiry is subject to rapid transformation processes like in post-war Japan. In such contexts, an appropriate methodological approach (Georg Blind and Andreas Pyka 2014) must be considered indispensable.

## Appendix

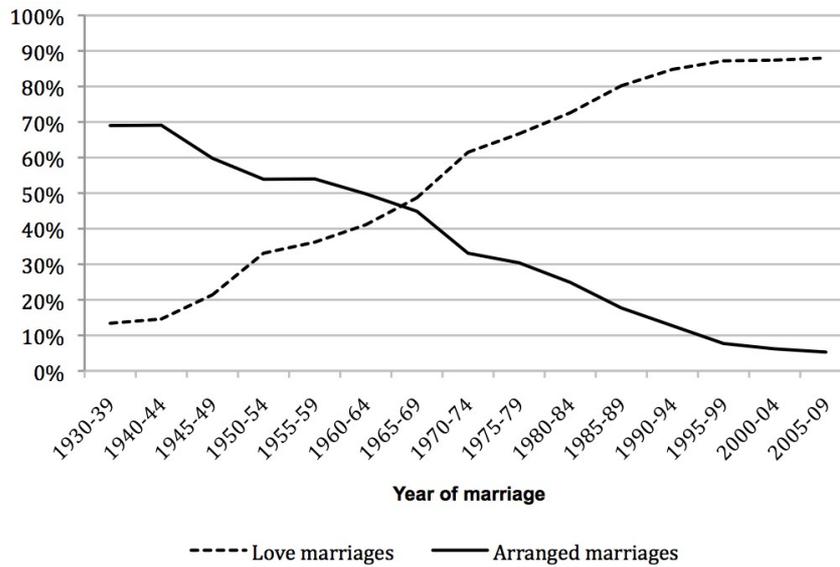
### 2014 inheritance taxes

Amount (JPY million)	Tax rate (%)	Allowance (JPY million)
< 10	10	0
< 30	15	0,5
< 50	20	2
< 100	30	7
< 300	40	17
> 300	50	47

Source: Translated from National Tax Agency of Japan; <https://www.nta.go.jp/taxanswer/sozoku/4155.htm>  
(Mar 4, 2015)

## Tables and Figures

Figure 1: Share of chosen marriages and arranged marriages 1930-2009.



Source: Based on Institute of Population and Social Security Research (IPSS) (2011:30, Table 1).

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