Family Business, Employment, and GDP*

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Abstract

We analyze the proportion of family business and its contribution to employment and gross domestic product (GDP). Our analysis adds to the literature by including all listed firms and by investigating a longer period than has heretofore been reported. The main contribution is to extend the analysis to include all firms in the economy using census data. Our study is devoted to the case of Sweden. Family business makes up half of the listed firms, and three quarters of all firms, accounting for one-fourth of total employment, and one-fifth of GDP. Their importance has increased during the period studied.

Keywords: Family Firms; Employment; GDP; Sweden; Ownership

JEL-Codes: L11; L25; L26

1. Introduction

Family business has been treated as an anachronism, in traditional economics as well as by leading business historians. A conventional view was that family firms constituted one type of initial phase in enterprise development, followed by the public company phase. Family firms were seen as small and medium-sized, slow growing, and having "flat" organizational structures and internal succession patterns. It was assumed that family firms avoided stock-market finance and thus relied to a large extent on self-financing or on local, often informal, credit sources. Their production technology was seen as backward and as less profitable than that in managerial firms. Today, these views are partly regarded as obsolete since empirical studies have shown that there are many large, dynamic, innovative, and profitable family firms in markets all over the world (Colli, 2003; Sjögren, 2006).

However, the vast number of firms in the economy together with the fact that statistics does not recognize family firms has made it impossible in practice to study the degree of family ownership on a national level. By necessity, previous studies on the relative importance of family business have therefore been confined to listed firms, samples of firms, or case studies of firms, thus, excluding the majority of firms. In Sweden, only about 0.07 percent of firms are listed. Most family firms are indeed small and not listed, but there are also many large ones operating outside stock exchanges. The contribution of family firms to employment and gross domestic product (GDP) are therefore largely unknown. In this article we are dealing with five interrelated questions:

1) What is the proportion of family-controlled firms among listed firms?
2) What is the proportion of family-controlled firms among the total number of firms?
3) What is the share of family-controlled firms in terms of total employment?
4) What is the approximate value added of family-controlled firms in relation to GDP?

5) What is the dynamics of these ratios, i.e., the changes of family ownership and its economic impact over time?

This is a pioneering study to examine the proportion and importance of family-controlled firms in the total economy. Our analysis concerns Sweden. It, firstly, adds to the literature by including all listed firms and, secondly, by studying a longer time period than has previously been done. The main contribution is, thirdly, to extend the analysis to include all firms in the economy using census data.

We start our article by referring to the international research on the size of family ownership. Next we present our data, followed by our results. In the conclusions we collect our main findings.

2. A comparative view of family business

In the Chandlerian perspective, the rise of corporations since the late 19th century epitomized a change from personal family capitalism to managerial capitalism. “No family or financial institution was large enough to staff the managerial hierarchies required to administer modern multiunit enterprises. Because the salaried managers developed specialized knowledge and because their enterprises were able to generate the funds necessary for expansion, they ultimately took over the top-level decision making from the owners or financiers or their representatives. /…/ They rarely had the time, the information or the depth of experience to propose alternative; they could veto proposals, but they could do little else” (Chandler & Deams, 1980, p. 13-14). A growing separation between ownership and control in the largest American corporations led to support for this view. It was confirmed in the late 1970s that the proportion of managerial enterprises among the 200 largest corporations had increased from

50 percent in 1929 to more than 80 percent (Berle & Means, 1932; Herman, 1981).

Hannah (1980) and Rose (1995) demonstrated that the development of the British big business in the early 1980s did not correspond very well to the American pattern. Soon after, it was shown that neither the Swedish experience seemed to fit the Chandlerian stage model (Glete, 1993; Ullenhag, 1993). Factors such as large firms and a large domestic market were likely to have been decisive in creating unique US conditions. Another explanation put forward was that the American scholars had been too strict in their definitions of a family firm.

As discussed in La Porta et al. (1999) it is possible for a family to maintain a de facto control in a firm attaining a small minority shareholding. Control can be maintained through stable board membership, financial arrangements, or voting power enforced by law (such as differentiated voting rights). For instance, Donnelly (1964, p. 96) reports that 55 percent of the largest 175 US corporations in 1955 had close relatives or in-laws holding management jobs in the same company. Sheehan (1967) shows that family firms constituted about 150 out of the top 500 US corporations in the 1960s, using the definition of family ownership as holding at least 10 percent of the votes. When defining managerial control as 5 percent minimum capital in the hands of an individual, a family, or family members *and* inside *or* outside presence of one or more family members on the board of directors, 47 percent of the 500 Fortune-ranked publicly owned American industrial enterprise groups fell under this definition in 1965 (Burch, 1972). Studies of the 500 largest US firms have shown a prevalence rate around 35 percent for the latest twenty years (Ward, 1987; Jetha, 1993). More recent studies of the US economy suggest that family firms represent between 4 and 20 million firms in total, depending on the definitions of family involvement (Shanker &

Astrachan, 1996; Colli, 2003, p. 17-18).

In an international context La Porta et al. (1999) find that the shares of the large publicly-traded firms are 20 percent for the United States and France, 10 percent for Germany, and 15 percent for Spain, defining family firms as one owner or one family controlling at least 20 percent of the votes. Regarding medium-sized publicly-traded firms, family business's share is 10 percent in the United States, 50 percent in France, 40 percent in Germany, and 30 percent in Spain. For Sweden, 45 percent of large and 60 percent of medium-sized publicly-traded firms are family business in 1995 (Table 1).

Table 1 Percentage of Companies Controlled by Families

Sample (years studied)	**Definition**	**Family firms (%)**	**Source**
Largest 175 US corporations (1955)	Close relatives or in-laws holding management positions in the same company	55%	Donnelly (1964)
Top 500 US corporations (1960s)	Families control > 10 % of the votes	30%	Sheehan (1967)
Fortune 500 (1965)	5% family ownership, representation on board, and multiple generations of involvement	47%	Burch (1972)
Fortune 500 (1987)	Founding family in top management position or on board	35%	Ward (1987)
Fortune 500 (1992)	Top executive is family member of descendant of founder	37%	Jetha (1993)
Business Week CEO 1000 (1993)	Top executive is family member of descendant of founder	21%	McConaughy (1994)
54,000 public companies in the US (1996)	Under close family control	60%	Schanker & Astrachan (1996)
20 largest publicly traded firms in various countries (1995)	Families control > 20% of the votes	20% United States 10% Germany 20% France 15% Spain 45% Sweden	La Porta et al. (1999)
10 medium-sized publicly traded firms (1995)	Families control > 20% of the votes	10% United States 40% Germany 50% France 30% Spain 60% Sweden	La Porta et al. (1999)
2,980 publicly traded corporations in nine East Asian countries (1996)	Families control > 20 % of the votes	45% Philippines 72% Indonesia	Claessens et al. (2000)
Top 250 firms on Paris Stock Exchange (1993-1998)	Families control > 10% of equity	57%	Blondel et al. (2002)
5,232 publicly traded firms in 13 Western European countries (1996)	Families control > 20% of the votes	44% Western Europe 65% Germany 65% France 56% Spain 47% Sweden	Faccio & Lang (2002)
S&P 500 (1992-1999)	Members of founding family on board and hold shares in absence of outside blocs of > 5%	32%	Anderson & Reeb (2003)
S&P 500 (2003)	Founding family on board as executives or as significant owners	35%	Weber et al. (2003)
Top 100 corporations (1993). Top 5,000 corporations for the case of the Netherlands.	Definitions vary across the referred studies	17% United States 17% Germany 46% The Netherlands 33% Switzerland 50% Italy	Colli (2003)

Source: Miller & Le Breton-Miller (2005, p. 3), updated.

Colli (2003, p. 16) refers to studies showing that family firms constitute 17 percent of the top 100 corporations in the US and Germany, and represent 8 and 12 percent of GNP respectively at the turn of the twentieth century. In 1993, family-controlled firms made up for 46 percent of the major Dutch corporations, the proportion in the top 100 Swiss corporations amounted to one third, and for the top 100 Italian corporations the proportion of family firms is estimated to 50 percent.[1]

In a study of ownership and control of more than 5,000 firms in thirteen Western European countries in 1996, Faccio & Lang (2002) report about 44 percent to be family-controlled. Firms in France, Germany and Spain show a prevalence rate of family-controlled firms between 55 and 65 percent, while Sweden's rate is estimated to 47 percent. Claessens et al. (2000) find family ownership to be highly concentrated in Asia. Their study covers close to 3,000 firms in nine East Asian countries. With the exception of Japan, the share of family-controlled firms ranges from 45 percent (Philippines) to 72 percent (Indonesia), applying a 20 percent cutoff level for controlling voting rights.[2]

In a survey, Emling (2000) estimates the share of family firms among private firms with Swedish owners to about 55 percent in 1999. They count for almost 35 percent of employment and 29.5 percent of turnover within the same group. Firms with sales exceeding five million SEK and with five or more employees are included in the study.[3] All industries are covered. An individual or a family has to control over 50 percent of the company in order to be classified as a family firm. Moreover, Emling restricts the definition of a family firm

[1] The studies referred by Colli (2003) are: Sluyterman (1997), Müller (1996), Barca et al. (1994), and Corbetta (1995).

[2] A longitudinal study of German companies comparing family-controlled and non-family controlled firms from 1903 to 2003 also suggests that family ownership is an effective organizational structure outperforming non-family firms in terms of operating (not stock market) performance. However, performance declined over the generations. It was also found that the families were slow to give up ownership, so that family control remained strong even after several generations (Ehrhardt et al., 2006).

[3] In 1999, 63 percent of all private firms had less than 5 employees according to our data.

saying that at least one of the following requirements has to be fulfilled: i) present owner intends to transfer the business to a family or individual; ii) the business has existed in the present owners family for at least two generations; and iii) at least three representatives of the family are active in the business.

Schenker & Astrachan (1996) acknowledge the lack of quantitative research on family business. There are a large number of qualitative studies whereas the quantitative contributions are to a great extent characterized by fairly unreliable statistics, not derived from primary research but from so called “Street Lore”. One explanation for the lack of quantitative research is that it is not until recently family firms have been identified and treated as a distinct entity. Another explanation put forward is the difficulties in detecting family business in the statistics. Our study directly responds to the pronounced wish for statistical accuracy both in definition and in coverage.

3. Data

Our study is based on two statistical sources: Firstly, census data produced by Statistics Sweden covering all firms in Sweden with employees.[4] Firms without employees that are run by self-employed are also included.[5] This data are available from 1993 to 2006, and includes, but do not identify, listed firms. Secondly, data on listed firms are then supplemented with the compilation “Owners and Power in Sweden’s Listed Companies”, available for the period 1985 to 2008 (Sundqvist, 1985-2008).[6] Combining these statistical sources enable us to identify all family firms in the total economy. We apply three definitions of family business. Firstly, the more constrained 50 percent criterion, a firm in which a family controls at least 50

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[4] Statistics Sweden’s Microdata Online Access (MONA), based on Labour statistics from administrative sources (RAMS), and Longitudinal integration database for health insurance and labour market studies (LISA).
[5] People who have their principal occupation within their own company are regarded as self-employed.
[6] The standard work regarding ownership of listed firms.

percent of the votes while being the largest owner, secondly, the 20 percent criterion, a firm in which a family controls at least 20 percent of the votes while being the largest owner, and thirdly, the more generous 5 percent criterion, a firm in which a family controls at least 5 percent of the votes while being the largest owner.

The total number of firms in the Swedish economy in 2006 that are carrying employees or are run by self-employed, make up for around 440,000. Listed firms amount to a few hundred per year. In total, our panel of data contains 5,496,177 observations.

The small number of listed firms make it possible for a researcher or group of researchers – even though time consuming – to identify ownership. Sundqvist (1985-2008) categorizes owners into ownership spheres and we use his categorization when classifying listed firms as family firms. The large number of observations on non-listed firms make it impossible for an individual researcher or a group of researchers to classify them firm by firm, for a single year, and even more so for longer time periods. Instead we use information about legal forms in combination with the recognition of closely-held firms in the statistics. The three major legal forms are: sole-proprietorships (*enskilda näringsidkare*), partnerships (*handelsbolag*)[7] and incorporated businesses (*aktiebolag*). All sole-proprietorships are classified as family firms, since by law they can only be owned by a single individual.

Previously, the problem has been to identify family firms among partnerships and non-listed incorporated firms. However, a large tax reform in the early 1990s made high labor incomes more heavily taxed than capital incomes. In order to prevent that highly taxed labor income was taxed at lower capital income rates, special rules for closely-held companies, applying to

[7] This legal form also includes limited partnerships (*kommanditbolag*).

partnerships and non-listed incorporations, were introduced. To be able to verify compliance with the rules, the Swedish Tax Authority has classified each partnership and non-listed incorporation in Sweden as closely-held or not.[8] Statistics Sweden has used this information to categorize firms in their registers.

The principal rule concerning the definition of closely-held companies is that four or fewer owners have to control more than 50 percent of the votes in the firm (Swedish Tax Authority 2008, part 3, ch. 9; SFS 1999: 1229). The rules apply to partnerships and incorporated firms, listed firms are excepted (SFS 1999: 1229, ch. 56 §3).[9] Family members are regarded as one ownership sphere. This means that the number of owners in a closely-held company can be greater than four (Swedish Tax Authority 2008, ch. 9, p. 206). Being closely-held, then, does not always imply that a firm should be classified as a family firm. For example, applying the definition that an ownership sphere has to control 20 percent of the votes excludes closely-held companies having more than 5 owners if ownership is equally distributed, since the largest owner then controls less than 20 percent of the votes. Statistics Sweden keeps information over the number of owners of closely-held companies, but not of their votes. This paper responds to this by assuming that votes are equally distributed among the owners. That means that firms with more than two owners, more than five owners, and more than 20 owners will be excluded from the definition when applying the 50 percent, 20 percent or 5 percent criterion, respectively. In 2006, nine out of ten closely-held companies have one or two joint owners; 67 percent have one owner and 26 percent have two joint owners. Approximately 5 percent have three joint owners, 1.5 percent four joint owners, 0.5 percent five joint owners, and 0.5 percent have more than five joint owners.

[8] In case owners dispute the classification, the court decides.

[9] Income from sole-proprietorships is taxed as labor income wherefore it is not necessary to prevent labor incomes from being taxed as capital incomes.

Firms controlled by Swedish families who have emigrated are not identified in the statistics, nor are non-listed firms owned by a foundation that is controlled by a family, or firms active in Sweden owned by foreign families. The first category is represented by a number of well-known companies, such as IKEA and Tetra Pak.[10] A large number of entrepreneurs emigrated and moved the domicile of their firms from Sweden in the 1970s and 1980s, often to the Netherlands, Great Britain and Switzerland, because of changes in regulations that had a negative impact on individual ownership, e.g., taxes could be confiscatory when firms were inherited (Lindkvist, 1990). The exodus still continues due to relatively high taxes on private ownership. The exclusion of these firms leads to an underestimation of employment in family business. IKEA alone employs approximately 9,000 people in Sweden in 2008.[11]

As a second category, foundations controlled by families, like the Wallenberg group, have increasingly invested in firms outside the stock market since the 1990s. We judge this to be a non-negligible effect, but there is little information on this. The third category has probably become much larger the last decades. Foreign ownership of Swedish firms has increased substantially, since the deregulation of Swedish capital markets in the late 1980s, making it easier for foreigners to invest in Sweden (e.g., Henrekson & Jakobsson, 2001). A recent example is the multinational heavy-truck producer Scania, with more than 13,000 employees in Sweden in 2008 (Scania, 2009). In 2008, Scania went from being controlled by the Swedish Wallenberg family to being controlled by the German Porsche/Piëch family. Altogether, our dataset might therefore underestimate employment in family firms by hundreds of thousands of persons.[12]

[10] IKEA is controlled by Ingvar Kamprad and Tetra Pak is controlled by the Rausing family.
[11] Information from phone call to IKEA on April 30, 2009.
[12] 100.000 employees correspond to 2 percent of total employment in 2006.

4. Family business and employment

4.1 Listed firms

The share of family business stays at a relatively high level until 1990 according to all three definitions (Table 2). From then on, it declines: the share of family business according to the 50 percent and the 20 percent criterion declines more than the share according to the 5 percent criterion. The share of family business according to the 50, 20 and 5 percent criterion is decreasing from 32, 61 and 72 percent in 1985 to 15, 52 and 69 percent, respectively, in 2008. The decline after 1990 might be partially explained by the deregulation of the Swedish financial market, carried out stepwise during the 1980s and completed in 1989, which made it easier for foreign actors to enter the Swedish market, exposing Swedish ownership to increased competition (Henrekson & Jakobsson, 2005). This indicates that the deregulation made it harder for family owners to remain in control of larger positions, though they have been able to maintain control of smaller ones.[13]

[13] The same tendencies have been observed regarding the industrial financial system (Sjögren & Kishida, 2009).

Table 2 The Number and Share of Family Firms on the Swedish Stock Exchange, 1985-2008

Year	Total number of listed firms	Family business, 50 percent control		Family business, 20 percent control		Family business, 5 percent control	
		N	(%)	N	(%)	N	(%)
1985	251	81	32	154	61	180	72
1986	246	98	40	171	70	188	76
1987	239	71	30	146	61	168	70
1988	257	99	39	163	63	178	69
1989	239	97	41	157	66	172	72
1990	243	105	43	164	67	182	75
1991	219	85	39	141	64	149	68
1992	202	74	37	122	60	129	64
1993	185	64	35	105	57	111	60
1994	194	60	31	101	52	113	58
1995	215	69	32	118	55	134	62
1996	212	62	29	120	57	137	65
1997	245	67	27	139	57	160	65
1998	286	68	24	157	55	190	66
1999	316	76	24	178	56	206	65
2000	324	67	21	170	52	217	67
2001	334	58	17	170	51	225	67
2002	332	64	19	169	51	223	67
2003	325	68	21	172	53	220	68
2004	301	59	20	158	52	211	70
2005	291	52	18	154	53	204	70
2006	295	52	18	150	51	202	68
2007	294	47	16	146	50	201	68
2008	299	45	15	154	52	207	69

Note: Control refers to share of votes.
Source: Sundqvist (1985-2008) and own calculations.

These findings are in line with previous studies. In 1996, Faccio & Lang (2002) found 47 percent of Swedish firms to be family-controlled according to the 20 percent criterion, while we find a somewhat higher share, 57 percent. Compared to other countries reported by Faccio & Lang (2000), our estimates for Sweden show a lower share than Germany and France (65 percent), but a higher share than Spain and the Western Europe average (56 and 44 percent, respectively). Relating our findings to the ones reported for Sweden by La Porta et al. (1999) reveal that our estimate (55 percent) in 1995 is close to the 60 percent share reported for the medium-sized publicly-traded firms and a bit higher than the 45 percent share reported for the large publicly-traded firms. In comparison to other countries reported by La Porta et al. (1999), our estimate reveals a higher share than medium-sized firms in the United States (10 percent), Germany (40 percent), France (50 percent), and Spain (30 percent).[14] Further comparisons, looking at both medium-sized and large firms, show that our estimate is close to the 50-60 percent share in Belgium, Greece, Israel, Australia, Italy and Portugal. Four countries reported by La Porta et al. (1999), Argentina, Hong Kong, Greece and Mexico, show a higher share than our estimate for Sweden.

4.2 The whole economy

The number of family firms in the whole economy has increased in absolute numbers as well as in proportion (Table 3). In 1993, 61 to 65 percent out of the total number of firms were family firms compared to 74 to 76 percent in 2006, irrespective of definition. According to the 50 percent criterion, family business's share of total employment has increased from 15 percent in 1993 to 21 percent in 2006, and from 20 (21) percent to 25 (26) percent according to the 20 (5) percent criterion. During the thirteen year period, employment in family business has increased with more than 300,000. The increase in total employment during the same time period is approximately 550,000. Hence, family business corresponds to a significant part of the total increase in employment between 1993 and 2006. As for the year 2006, the family business share of 76 percent leaves 24 percent to other forms of ownership. A further analysis of these firms reveals that according to the 20 percent criterion, about 0.2 percent out of the total amount of firms in 2006 are owned by the central government, 0.3 percent by local government, i.e., municipalities, and 19.5 percent by private non-family owners. Remaining 4 percent have owners that have not yet been classified by Statistic Sweden. Furthermore, their contribution to employment is: 9 percent for central government firms, 27 percent for local government firms, and 39 percent for private non-family firms. Firms not yet classified into ownership categories have negligible effect on employment, accounting for 0.4 percent of

[14] The share of medium-sized firms reported in La Porta et al. (1999) is consistently higher than the share of large publicly traded firms, with the exception of the United States (20 percent).

total employment.

Table 3 Employment in Family Business in the Total Economy, Including Firms Listed on the Swedish Stock Exchange (thousands), 1993-2006

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total no. of firms	**352**	**368**	**371**	**370**	**382**	**390**	**389**	**395**	**396**	**398**	**392**	**426**	**429**	**438**
Fam. bus. share, 50 % def. (%)	61	61	62	62	61	61	55	60	60	62	64	74	74	74
Fam. bus. share, 20 % def. (%)	65	65	65	65	64	63	63	63	62	65	67	75	76	76
Fam. bus. share, 5 % def. (%)	65	66	66	65	64	64	63	63	62	65	67	76	76	76
Total employment	**3748**	**3800**	**3851**	**3828**	**3813**	**3930**	**3960**	**4063**	**4102**	**4147**	**4095**	**4173**	**4185**	**4291**
Fam. bus. share, 50 % def. (%)	15	15	15	14	14	14	13	13	13	14	14	21	21	21
Fam. bus. share, 20 % def. (%)	20	21	21	20	20	19	19	18	18	19	20	25	26	25
Fam. bus. share, 5 % def. (%)	21	23	22	21	21	20	20	19	18	19	20	26	27	26
No. of private firms	**326**	**340**	**345**	**347**	**356**	**363**	**341**	**370**	**372**	**373**	**375**	**405**	**409**	**418**
Fam. bus. share, 50 % def. (%)	66	67	66	66	66	65	62	64	64	67	67	77	78	78
Fam. bus. share, 20 % def. (%)	70	71	70	69	69	68	65	67	66	69	70	79	80	80
Fam. bus. share, 5 % def. (%)	71	71	70	69	69	68	66	67	66	70	70	80	80	80
Employment in private firms	**2057**	**2123**	**2227**	**2227**	**2262**	**2371**	**2413**	**2567**	**2575**	**2581**	**2581**	**2653**	**2672**	**2747**
Fam. bus. share, 50 % def. (%)	27	27	26	25	24	23	21	21	21	22	23	32	33	32
Fam. bus. share, 20 % def. (%)	37	37	35	34	34	32	31	28	28	30	31	40	40	39
Fam. bus. share, 5 % def. (%)	38	41	37	36	35	33	33	30	29	31	32	41	42	40

Source: Sundqvist (1985-2008), Statistics Sweden, and own calculations.

The figures take a leap in 2004 due to changes in methods in defining self-employment. As of 2004, the statistics includes firms run by self-employed, that do not demonstrate a surplus. Before 2004, only self-employed that made a profit were included in the statistics. This change in definition added 64,840 family firms (Bjuggren et al., 2008), which corresponds to an increase in family business's share of more than 5 percentage points in 2004 and around 4 percentage points in the following two years. Extracting these firms results in a family business share of 71 percent in 2004 and 72 percent in 2005 and 2006, for both the 20 and the 5 percent criteria. As regards the 50 percent criterion, the result is 69 percent in 2004 and

2005, and 70 percent in 2006. Taking this into account, a comparison from 1993 to 2006 reveals that the family business's share of the total number of firms increases by seven (or eight for the 50 percent criterion) percentage points instead of eleven (thirteen for the 50 percent criterion). The change in method also alters the family business's share of employment, although only by one or two percentage points. Taking the method change into consideration, family business's share of total employment is 19 (24) percent in 2004 and 2006, and 20 (25) percent in 2005 according to the 50 (20) percent criterion, and 25 percent for all three years, according to the 5 percent criterion.

Family business's share of private firms amounts to about 70 percent in 1993 and about 80 percent in 2006. Taking the method change into account, the share of family business lies around 73 (75 and 76) percent from 2004 to 2006 according to the 50 (20 and 5) percent criterion. This implies an increase in the share of family business with 5-7 percentage points from 1993 to 2006. The 62 percent share in 1999, according to the 50 percent criterion, is a bit higher than the 55 percent share estimated by Emling (2000). One plausible explanation is that the share of family business is larger among smaller firms, which are covered by our but not by Emling's study.

Family business's share of private employment increases from 27 percent in 1993 to 32 percent in 2006 according the 50 percent criterion. For both the 20 and 5 percent criteria the share changes from 38 percent in 1993 to 40 percent in 2006. Also here, taking the method change into account decreases the estimates with one or two percentage points. According to the 50 (5) percent criterion the altered share is 31 (40) percent in 2004 and in 2005, and 30 (39) percent in 2006. According to the 20 percent criterion the altered share is 38 percent in 2004 and in 2006, and 39 percent in 2005. Defining family business according to the 50, 20, or 5 percent criterion has only modest effect on the results. The family business's share of private employment in 1999, 21, 31 and 33 percent respectively, is a little lower than the 35 percent estimated by Emling (2000). This divergence may be explained by the fact that Emling's study is based on a population sample, while our study is based on census data.

5. Family business and GDP

Statistics on value added is available in our database from 1997 and onwards. From 1997 to 2003 the family business's share of GDP according to the 50 percent criterion, lies between 9 and 12 percent. In 2004 there is a leap to 16 percent, followed by 17 percent in 2005 and 16 percent in 2006. As discussed earlier, the number of private firms increases in 2004 due to statistical changes, which probably explains the leap.[15] Family business's share of GDP according to the 20 percent criterion lies between 15 and 18 percent from 1997 to 2003. Correspondingly there is a leap to 22 percent in 2004, followed by 22 percent in 2005 and 21 percent in 2006. The share according to the 5 percent criterion is a little higher than for the 20 percent criterion. The 5 percent criterion shows a two percentage point higher share in 1997 and 2006, and a one percentage point higher share for the remaining years (with the exception of 2003).

[15] Statistics Sweden only gives the number of firms and employees that are affected by this change, not the corresponding value added.

Table 4 Family business's share of GDP, and private value added, 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Share of GDP										
Fam. bus. 50 % def. (%)	10	9	9	9	10	11	12	16	17	16
Fam. bus. 20 % def. (%)	16	17	18	15	16	17	18	22	22	21
Fam. bus. 5 % def. (%)	18	18	19	16	17	18	18	23	23	22
Fam bus share of private value added										
Fam. bus. 50 % def. (%)	17	16	15	16	17	19	19	26	27	25
Fam. bus. 20 % def. (%)	29	28	30	24	26	28	28	35	35	33
Fam. bus. 5 % def. (%)	33	30	32	26	27	29	29	37	37	34

Note: Current prices are used.
Source: Sundqvist (1985-2008), Statistics Sweden and own calculations.

These results are in accordance with the lower estimate of Astrachan & Schanker (1996), who estimate that family business stands for between 12 and 49 percent of GDP, depending on definition. For comparison, Colli (2003) finds that family business accounted for 8 percent of GNP in the United States and for 12 percent in Germany.

Family business's share of value added of private firms amounts to 17 percent in 1997, according to the 50 percent criterion, 29 percent according to the 20 percent criterion, and 33 percent according to the 5 percent criterion. A decrease takes place in 1999-2000 when the share reduces to 15, 24 and 26 percent, respectively. In 2006, the shares were 25, 33, and 34 percent, respectively. The development is overall a somewhat uneven increase from 17 to 25 percent (50 percent criterion), 29 to 33 percent (20 percent criterion), and 33 to 34 percent (5 percent criterion) during the studied time period. The development of family business's share shows similar patterns regardless of definition. The largest deviation takes place between 1997 and 1999, where the difference between the 50 and the 5 percent criteria amounts to 14-17 percentage points.

At first glance, the fact that family business shows a somewhat lower share of GDP and of private value added than of total and private employment may suggest a lower productivity in family firms. Such a conclusion will be too hasty because capital intensity and total factor productivity in different firms and industries has to be taken into account. That analysis is beyond the scope of this study, however.

6. Concluding remark

This study shows that family business accounts for a substantial share of employment and GDP. Their relevance stands in contrast to the historical foretelling by Chandler and others. Given the contribution to employment and GDP, family business certainly deserves our further attention. In order to capture the economic contribution of family business it is crucial to first be able to identify family firms in the statistics. By using statistics extracted from tax registers we are able to identify all closely-held firms in the Swedish economy. This allows us to deduce family business based on the number of owners and the legal form of the firm. Data on listed firms is then added, resulting in a dataset containing 5.5 million observations covering the years 1993 to 2006. As regards value added, data are available from 1997 to 2006. Data on listed firms cover the years 1985 to 2008.

Looking at the firms on the Swedish stock exchange, the share of family business amounts to 32, 61 and 72 percent respectively in 1985, applying the definition that an owner, or family, controls either 50, 20 or 5 percent of the votes. The share decreases to 18 percent in 2006 using the 50 percent criterion, 51 percent using the 20 percent criterion and to 69 percent using the 5 percent criterion. The results encompassing the entire economy reveal a larger presence of family business. In 2006, the share equals about 75 percent, regardless of definition. In comparison to earlier research, this is a rather high proportion. In 2006, the contribution of family business to employment is about one fifth and about one sixth to GDP, according to the 50 percent criterion. As regards the 20 percent and the 5 percent criteria, the contribution of family business to employment is about one fourth and about one fifth to GDP in 2006. A more dynamic view over time exposes an increase in family business's share of firms as well as of employment and of GDP.

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