

Milk and milk products

From Medieval to Modern Times

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7 The retail milk trade in transition: a case-study of Munich, 1840–1913

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From the middle of the nineteenth century, industrialisation changed not only the sphere of production in Germany, but made further economic development dependent on increasing sales of consumer goods and an extended distribution system. Fundamental changes in German retailing had occurred which altered first of all the life-styles of urban populations. Advertising and industrially produced goods led to new consumer demands and the shop in its differentiated form became the centre of the fledgling consumer society.¹

These general changes affected also the sale of goods which were not industrially produced. The foodstuff trade is a good sample of an indigenous development of retailing, and to exemplify the processes involved we shall consider the changes and development of the Munich milk trade during the years 1840 to 1913.²

1. The Munich retail milk trade did not begin in 1840, but rather at that time two developments occurred which were to remain dominant until the First World War: (a) the breaking of the direct relationship between consumer and producer, and (b) the establishment of the shop as the centre of the retail trade.

Around 1840 the milk supply in Munich was in the hands of three different groups: farmers, milkmen, and the so-called milk storehouses (*Milchniederlagen*).³ The market trade in milk had already ceased in 1807, and the street trade was not very important. Farmers and milkmen produced according to demand and delivered the goods directly to their customers. For the milkmen, who came on the scene at the beginning of the eighteenth century, their milk business was their means of livelihood, while the farmers, who came from the surrounding areas, mainly sold their products to obtain cash for purchasing goods they could not produce themselves. The milkmen kept their cows within the Munich *Burgfrieden* and produced milk for sale only. They set up little street stalls to sell the excess milk, and also introduced the sale of milk from carts. This new form of competition induced some farmers, especially the larger ones, from the beginning of the nineteenth century, to store milk in rented

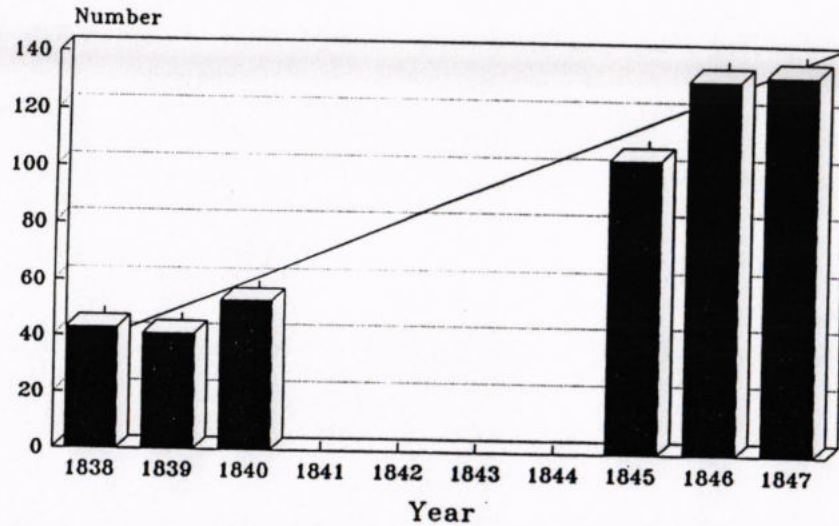


Fig. 7.1. Milk storehouses in Munich 1838–1847. (Source: StA München Gewerbeamt 5322)

business premises, and to have it transported from there by milkmaids (*Milchmädchen*) to their customers. These large farmers had simply to supply the milk to these so-called milk storehouses, and the retailing of it was taken over by their employees. Thus, the farmers were able to match the milk quality of the milkmen. Between producer and consumer the milkmaid appeared first as a saleswoman, then as a retailer, but from 1840 milk storehouses were increasingly independently rented by milk saleswomen supported by the producers who granted them a loan. Starting in the centre of the town, this first form of the shop gained more and more ground within the town.

2. When milk became a purely commercial product the state authorities increasingly reacted with regulatory decrees and an intensification of control. For the retail trade the direct official control of milk played a less important role than the stringent regulations for the sale of milk. The pressures for rationalisation and professionalism in the milk trade occurred not through official control of milk, but rather through the shop and sales arrangements.

Like all other agricultural items, milk was a free product in Munich being subject only to the general market and police regulations. Due to controls by local officials comparatively high food-stuffs standards were achieved long before the establishment of a chemical investigation office in 1880 or 1884.⁴ There are no convincing sources for Munich indicating that adulteration of milk was common or usual.⁵ Although complaints about unhygienic conditions in milk storehouses were often made by

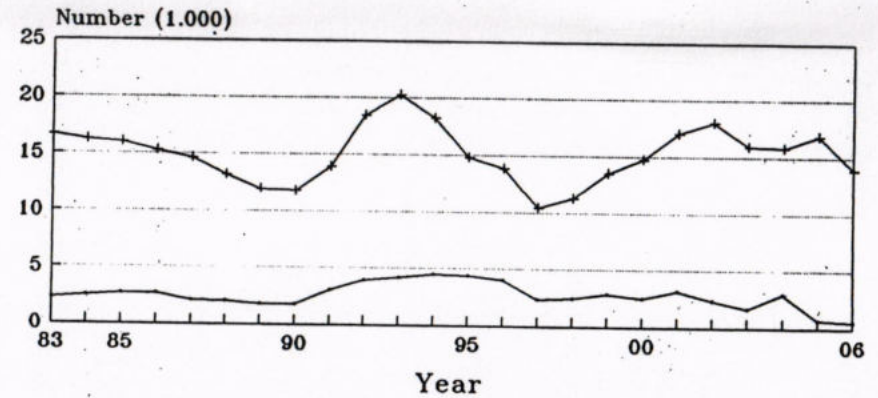


Fig. 7.2. Milk examination in Munich 1883–1906. (Sources: Marktverkehr, 1893, 369; Kreuzbauer, 1903, 296; Jahresübersichten 1896, 67*, 1904, 24*, 1907, 30*)

milkmen, these complaints, serving the specific purpose of denouncing the intermediate storage stage of the milk by farmers, arose from business competition and were not substantiated in reality.

Munich Town Council (*Stadtmagistrat*) promoted direct relationship between producer and consumer until the early 1860s, and tried several times to re-establish smaller milk-markets to increase the ever diminishing number of farmers selling directly to consumers.⁶ Munich was one of the first towns in Germany to regulate the sale of milk by means of a special decree in 1862.⁷ To keep the number of milk storehouses in check, high hygienic standards for the shop, the adjoining rooms, and the sales equipment, were fixed. But despite these strict regulatory measures the significance of the shop trade was not diminished. The proprietors obviously reacted to this pressure for rationalisation and professionalism with an increase in sales and an improvement of the milk shop which was then experiencing its first flow of customers.

Any other reaction by the milk shop proprietors would have been fruitless in Munich, for not only were the legal norms tightened up later on, but also the actual control systems were improved decisively. Supported by physicians and chemical engineers from the university, the district supervisors exercised control using the most modern means available at that time.⁸ But their main occupation was the inspection of the shops and sales equipment; every shop was controlled between ten and twenty-five times a year.

In Munich there was continual milk control, and through the tightening of the decrees in 1892, the national model role of Munich in this connection was underlined, as well as through later decrees about infant milk

(1899), or the reorganisation of the whole control of the food industry in 1906.⁹ This control was not considered a threat by retailers, but rather as benevolent official support.¹⁰ At variance with this situation where milk production was being modernized slowly¹¹ was the agricultural sector, where as early as 1887 even production centres could be examined, and the farmers' reaction to increasing control often took the form of defensive and political pressure.

3. Munich's retail milk trade achieved a large quantitative growth between 1840 and 1913. Nevertheless, this increase clearly lay below the population growth for the same period.

The estimations shown in Fig. 7.3¹² highlight three clearly-defined growth movements and periods: (1) a slow upward movement until 1875, then (2) a period of explosive rise, and (3) stagnation since the turn of the century, even a reduction in the absolute shop figures.

If this is brought into relationship with the quickly growing population (Fig. 7.4.), a clearly visible rise in the average number of customers of the retail milk trade since 1845, with the exception of the period between 1875 and 1885, becomes clear. Between 1840 and 1913 the average number of purchasers per shop had doubled (Fig. 7.5).

4. During the period between 1840 and 1913 Munich probably experienced a duplication of the average milk consumption per head. But this also signifies that before the period of high industrialisation considerable amounts of milk were consumed. For the retail trade this meant, bearing in mind the development of the population, a fourfold increase in demand for its services.

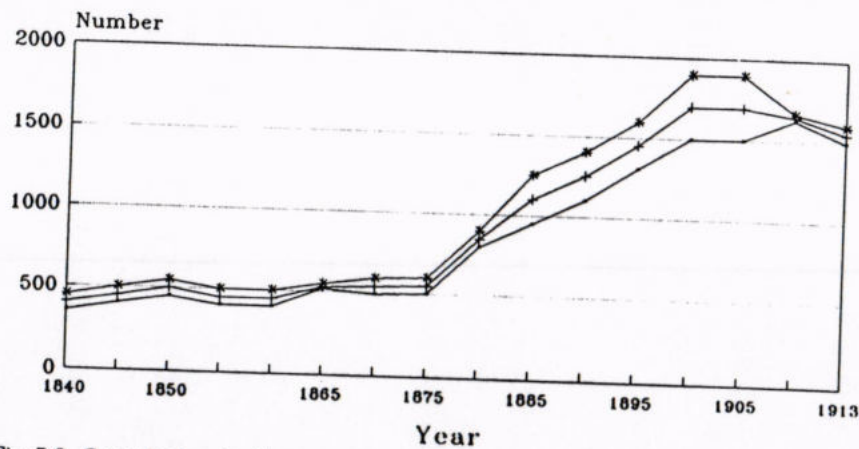


Fig. 7.3. Quantitative development of the Munich milk trade 1840-1913

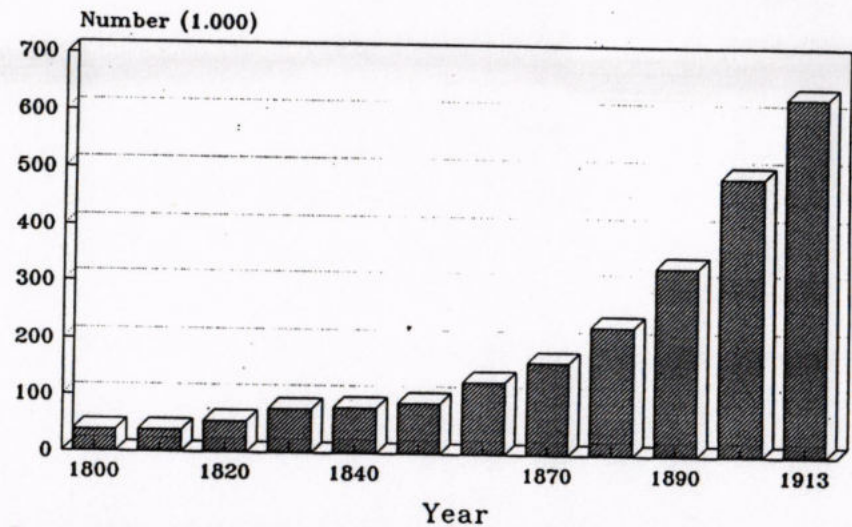


Fig. 7.4. Development of the population in Munich 1800-1913. (Source: Jahre, n.d. [1975], 131)

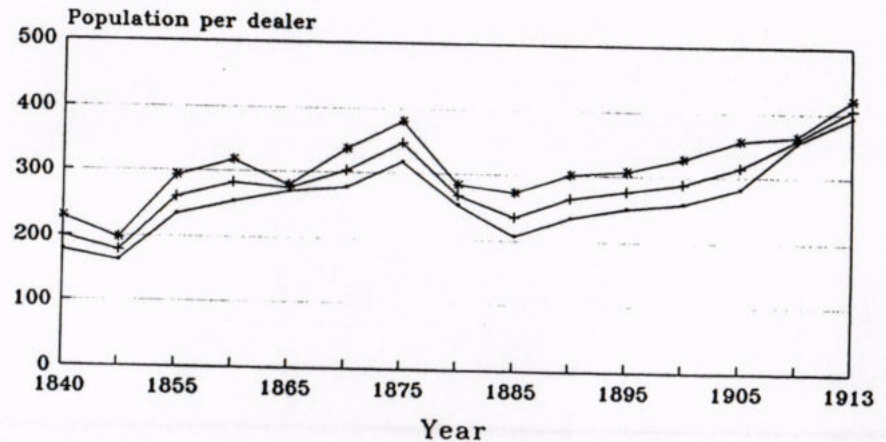


Fig. 7.5. Relation between population and milk dealers in Munich 1840-1913

Figures for milk consumption are very rare during the German Empire.¹³ This situation also applies to Munich for which explicit data can only be found after the turn of the century. For periods prior to that time one has to depend on estimations (see Table 7.1).

The early consumption figures are, with respect to Munich scientists,

much higher than the actual milk consumption, but nevertheless one can see a probable increase until the 1880s. Another source of data for milk consumption in Munich before World War I is the data in household budgets (see Table 7.2).¹⁵

The individual data point to an even steeper increase in the average milk consumption in Munich. Munich was not only a 'beer-town', but also had one of the highest per capita milk consumption rates in the German Empire. Bearing in mind also that eighty to ninety per cent of infant feeding was done artificially¹⁶—the transition to cow's milk occurred in the late 1850s and 1860s—the duplication of milk consumption seems an adequate assumption.

5. The actual radical change to a 'modern' retail milk trade occurred in the 1870s when growing competition finally undermined the traditional food stall, and the shop succeeded as the dominant medium of sale.

It is true that there are no absolute figures for Munich's retail milk trade, but archival material for registrations and cancellations of trade exists between 1868—the year when free trade had finally been achieved in Bavaria—and 1881 (see Fig. 7.6).

Until 1875 the absolute number of shops in Munich hardly varied, but this situation rapidly changed after the so-called *Gründerkrise*¹⁷ when the actual quantitative upturn in the milk trade began. (see Fig. 7.7).

As the annual change of personnel rose to fifty per cent, the inner structure of the retail milk trade clearly changed. In 1870, seventy-two per cent of all milk traders were milkmen, but by 1880, this had decreased to thirty-seven per cent. In contrast to this the market share of the milk traders and shops rose from twenty-three per cent

Table 7.1 Estimations of the Munich Milk Consumption before the First World War.

Year	Litres per head	Sources	General remarks
1850–1867	(0,562)	Schiefferdecker, 1869, 73–4	Distinct overestimation (Voit, 1877, 25)
1861	(0,363)	Wibmer, 1862, 218.	Slightly to high (Zaubzer, 1883, 437)
1882	0,291	Zaubzer, 1883, 438–9	Estimation on the basis of age-specific demand
1902	0,359	Beukemann, 1904, 112	Estimation on the basis of railway supply
1908	0,408	Bericht, [1910], 86	ditto
1909	0,422	Reitzenstein, 1930, 46	ditto
1910	0,418	ditto	ditto
1911	0,413	ditto	ditto
1912	0,422	ditto	ditto
1913	0,424	ditto	ditto

Table 7.2 Consumption of Milk in Munich Household Budgets 1873–1915.

Year	Profession	Size of household	Litres per head per day	Time of enquiry
1873	Porter	1	Coffee w. milk	3 days
1873	Joiner Journeyman	1	Coffee w. milk	3 days
1873	Physician	1	Coffee w. milk, milk at lunch	3 days
1873	Physician	1	Coffee w. milk	3 days
1876	Inmate of home for the aged	1	0,134	7 days
1875/76	Civil Servant	3	0,167	30 days
1880	Joiner Journeyman	4	0,375	7 days
1880	Commissionaire	2	0,25	7 days
1880	Mason Journeyman	4	0,175	7 days
1880	Seamstress	1	0,214	7 days
1897	Typesetter	4	0,253	2 months
1901	Stock-keeper	2	1,036	3 months
1902	Malster	4	0,557	1 year
1902	Brewery Assistant	5	0,285	1 year
1902	Malster	5	0,296	1 year
1902	Stockroom Worker	1	0,012	1 year
1902	Malster	1	0,034	1 year
1907/08	Skilled Workers	22 Families	0,397	1 year
1908	Metal Workers	15 Families	0,362	1 year
1910	Joiner Assistant	7	0,371	1 year
1911	Joiner Assistant	7	0,388	1 year
1912	Joiner Assistant	7	0,388	1 year
1911/12	Pyrotechnician	3	0,405	1 year
1911/12	Packer Forman	3	0,326	1 year
1912	Artist Painter	4	0,253	1 year
1913	Artist Painter	4	0,263	1 year
1914	Artist Painter	4	0,271	1 year
1913	Civil Servant	7	0,429	1 year
1913	Civil Servant	7	0,435	1 year
1914	Type setter	5	0,353	1 year
1915	All	4616 Families	0,412	1 month

to sixty-two per cent.¹⁸ Thus the shop as the main medium of sale was finally fully accepted by the dealers, while the producers were later on consistently pushed out of the retail trade. The percentage of shops with at least ten years continued existence are clear evidence of the change from the food stall with its traditional methods and orientation, to a modern competitive food sector (see Fig. 7.8).

This figure clearly shows the small personnel mobility of the Munich retail trade until the middle of the 1870s. Changes which had occurred

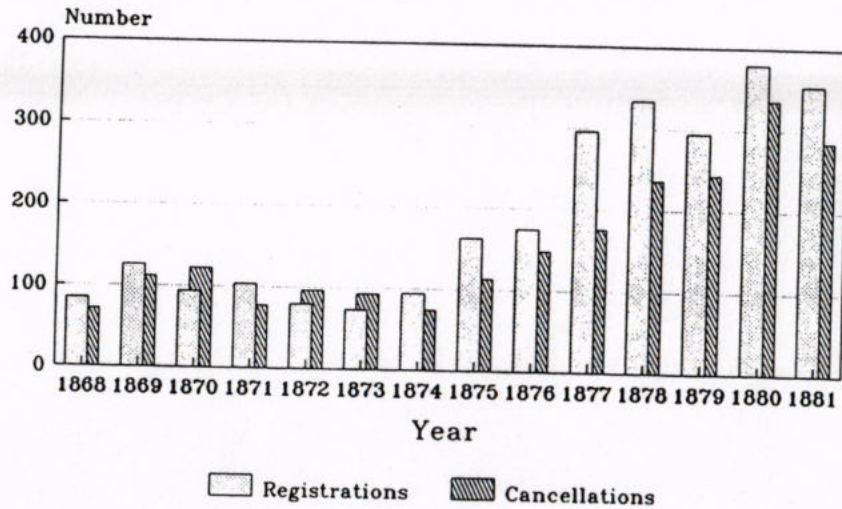


Fig. 7.6. Registrations and cancellations of trade in the retail milk trade 1868-1881. (Source: StA München Gewerbeamt 104/3).

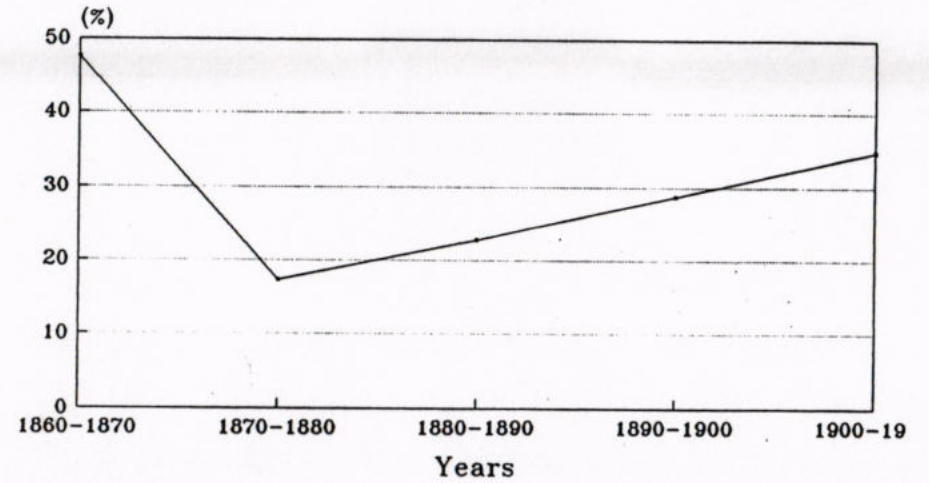


Fig. 7.8. Munich milk dealers with at least ten years of continued existence 1860-1910. (Source: Author's analysis of Adressbuch, n.d. [1860]. Adressbuch, n.d. [1870], [1880], [1890], [1900], [1913])

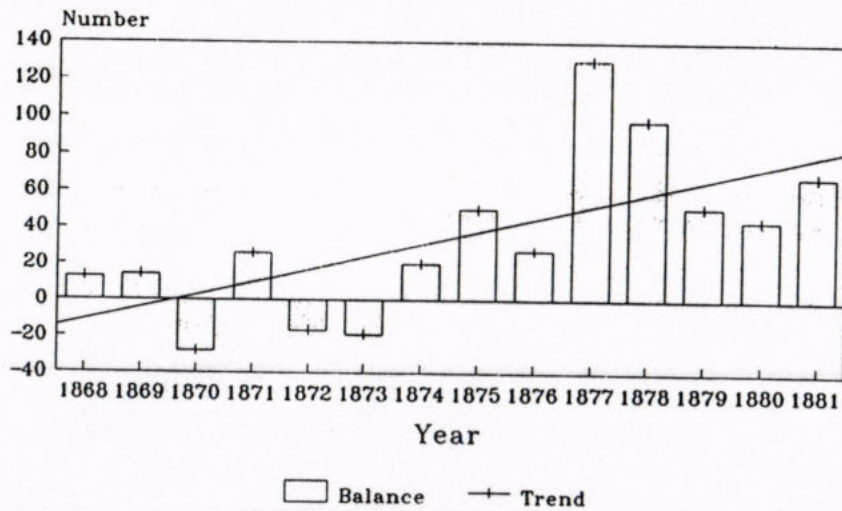


Fig. 7.7. Fluctuations in the Munich milk trade 1868-1881. (Source: StA München Gewerbeamt 104/3)

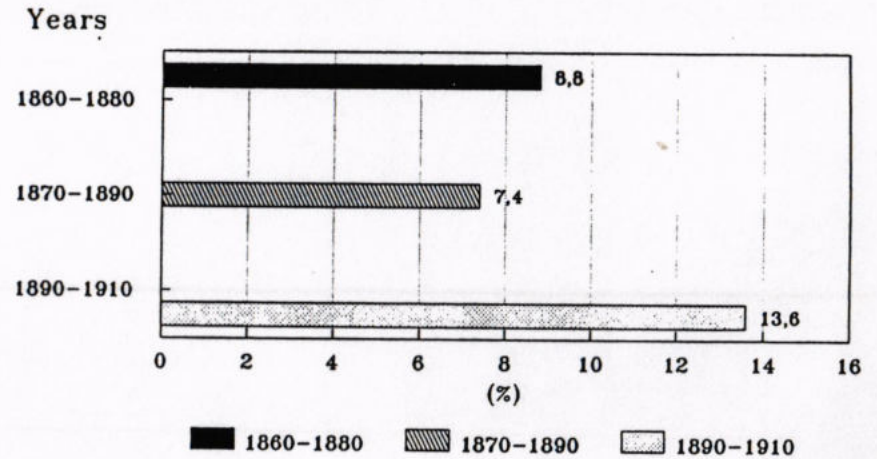


Fig. 7.9. Munich milk dealers with at least twenty years of continued existence 1860-1910 (Sources: Author's analysis of Adressbuch, n.d. [1860]. Adressbuch, n.d.

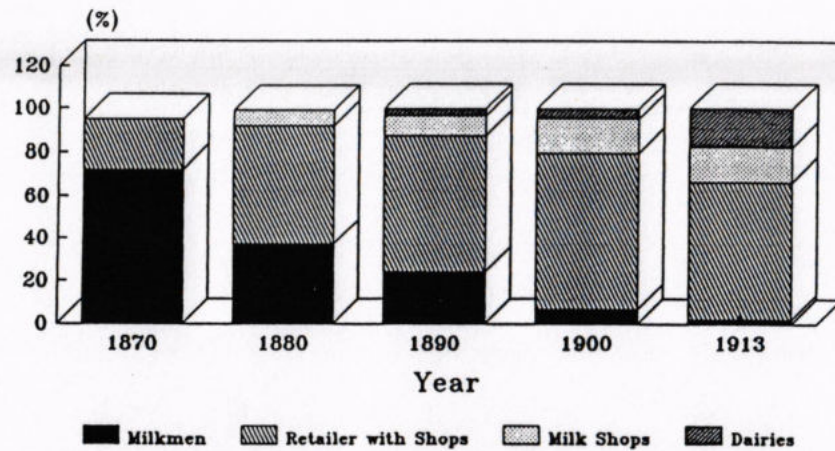


Fig. 7.10. Inner structure of the Munich retail milk trade, 1870–1913. (Sources: Author's analysis of Adreßbuch, n.d. [1870], [1880], [1890], [1900], [1913])

were mostly due to the addition of new elements—the milk storehouses, for example—while the old trade mechanisms survived.

6. After the period of transition 1875–1885, the Munich milk trade consolidated noticeably and, on average, milk retailers drew close to the norms of a secure middle-class existence. Milk prices, buying on credit, and increasing shop rents, became the decisive economic data which determined future development. An increase in sales was the rational answer to the increase in fixed costs.

As shown in Fig. 7.8 more and more retailers managed to survive for at least ten years between 1880 and 1890. The percentage of shops with at least twenty years of continued existence grew even more (see Fig. 7.9).

The underlying transformation becomes evident if one looks at the inner structure of the Munich retail milk trade (see Fig. 7.10).

In addition to the ousting of the milkmen mentioned above, and to the strong increase in shop-based milk dealers and milk stores, two trends become obvious in the period 1870–1913: firstly, the growing importance of the milk shops (*Milchgeschäfte*)—well-to-do places of business usually in privileged locations—and secondly, the surprising increase of so-called dairies (*Molkereien*). This latter term does not include production plants but rather milk shops which possessed processing facilities—usually a centrifuge—for left-over milk. 'Dairy' also became an important notion in advertising—the proximity to hygienic production was suggested, although most of the dairies had only wholesale and retail facilities. These two business structures seem to be the precursors of the so-called delicatessen store.

They were fairly efficient enterprises capable of controlling the market

and, therefore, restricting or even preventing new alternative forms of milk supply. The *Bassinwagen* which were first introduced in Munich did not gain importance, and even the powerful consumer co-operatives failed in relation to the milk trade.¹⁹ The growing demands on individual shops, however, also meant growing risks. The customers bought on credit and

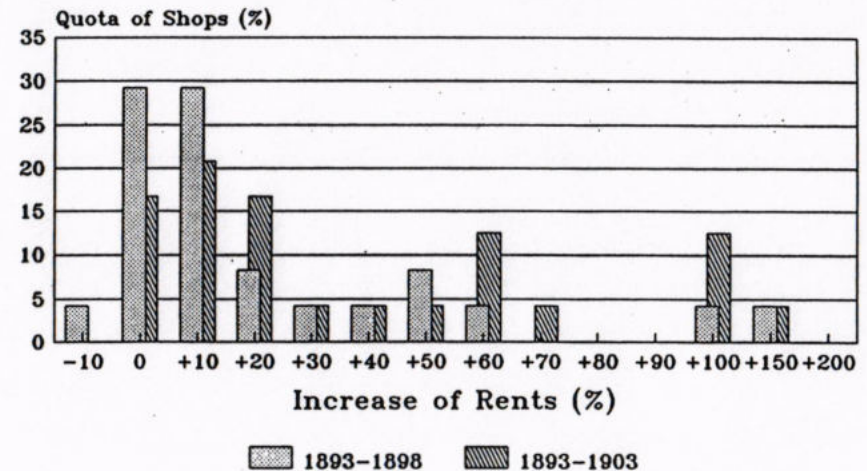


Fig. 7.11. Development of milk shop rents in Munich-Ludwigstraße 1893–1903. (Source: StA München Bezirksinspektionen 505)

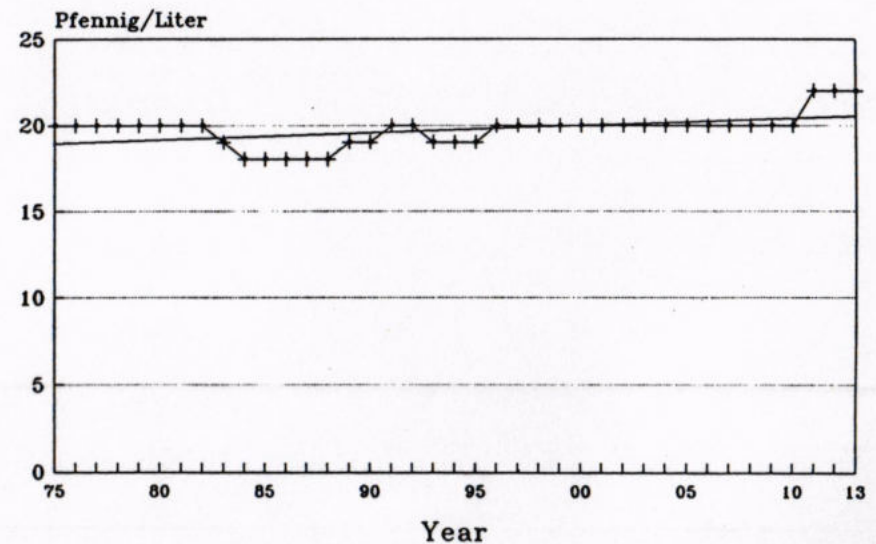


Fig. 7.12. Retail milk prices in Munich 1875–1913. (Sources: *Milchwirtschaft*, 1910, 208–209; *Morgenroth*, 1914, 295)

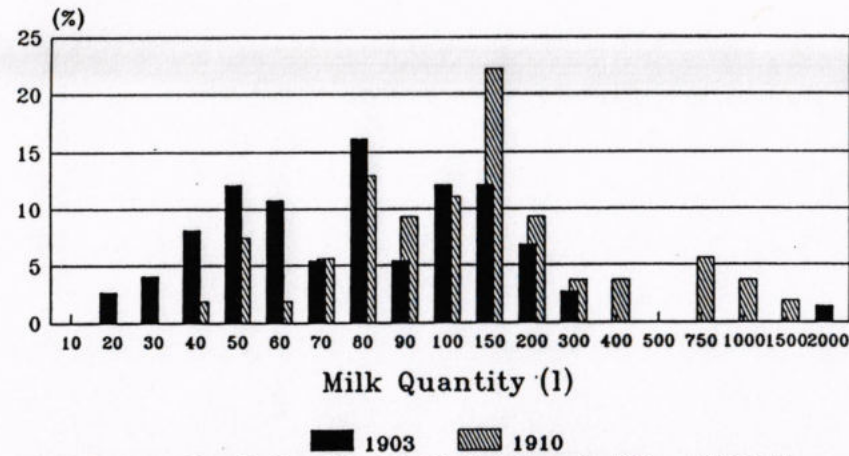


Fig. 7.13. Quantities of milk sold in Munich-Ludwigstraße 1903 and 1910. (Sources: 1903: StA München Bezirksinspektionen 505; 1910: Flack, n.d. [1910], 6-7)

usually paid once a month. The farmers, on the other hand, demanded weekly payments, and while wholesalers were able to cushion themselves from this disparity in income, the small retailers in particular lost their independence since a large number of them had only low profit margins,²⁰ unlike the prospering milk shops and dairies. It was inevitable that these small shops should get into financial straits as the milk retail price in Munich stagnated between 1875 and 1910, and the average shop rents increased.

Rents for milk shops increased in Munich-Ludwigstraße by 27.6% between 1893 and 1903 (see Fig. 7.11). As the purchase price of milk increased by 1.5 to 2 Pfennig per litre between 1900 and 1913 (see Fig. 7.12), the stepping up of sales was necessary. This increase occurred, as Figure 7.13 shows:

Between 1903 and 1910, the average sale per shop rose by seventy-five per cent (see Fig. 7.14). At the end of the period under scrutiny, there was still an immense number of small retailers in the milk trade in Munich, but these figures lie well above the average for other towns, and must be seen against the background of earlier shops which had been much smaller.²¹

7. At the turn of the century, new sale and purchase standards prevailed in the milk trade which confirmed the shop as the centre of the milk supply for consumers. The milk bottle as a hygienic basic innovation, however, was not generally accepted.

Although their additional assortment of goods was restricted by state regulations, most milk shops sold other products besides milk.

According to Figure 7.15, milk shops were actually both milk and bread

Milk Quantity (l)

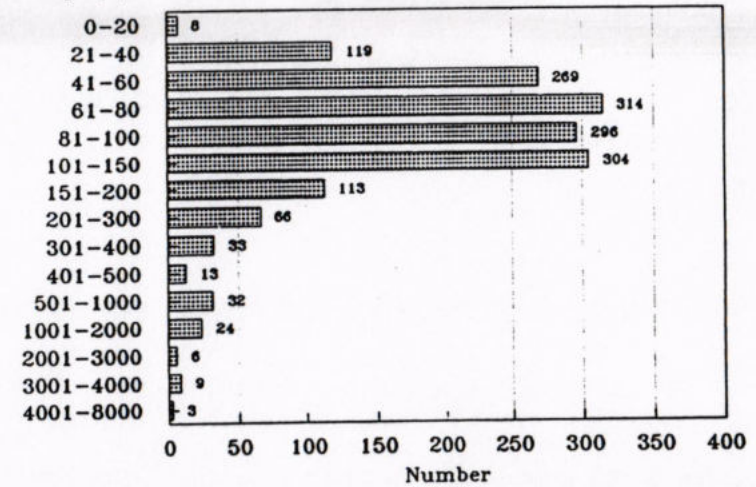


Fig. 7.14. Quantities sold in the Munich retail milk trade, 10.10.1910. (Source: Flack, n.d. [1910], 6-7)

Articles

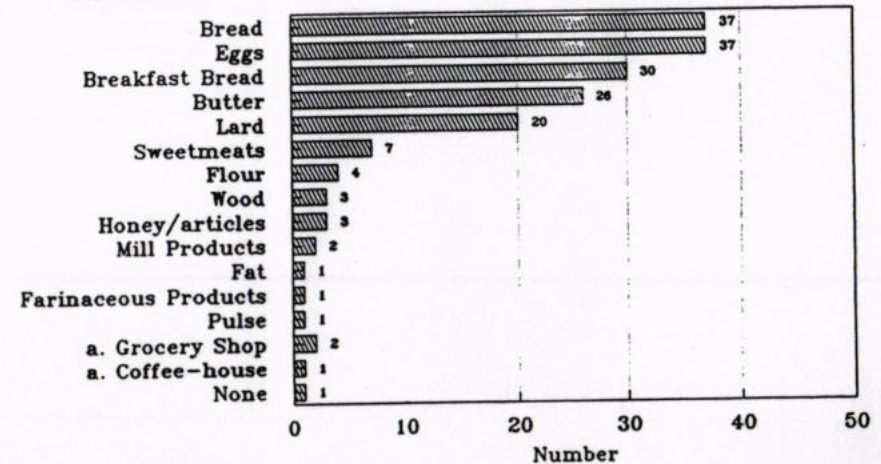


Fig. 7.15. Goods' assortment of milk shops in Munich-Ludwigstraße 1903. (Source: StA München Bezirksinspektionen 505)

shops, which also sold dairy products; shops which sold milk exclusively were unusual in Munich. The retail trade also provided service functions. It frequently made morning deliveries of milk, breakfast bread and butter to the customers' houses. The differentiation between bread and breakfast bread in Fig. 7.15, however, hints at certain changes. The retail dealers, who were not paid for their service, had been trying for a long time to attract customers to their shops, and actually the growing number of established shops did manage a breakthrough in this regard. Before the First World War, most of the milk supply of Munich was sold in shops.²² This meant that the shop had become the centre of the milk supply for the customers. The milk was measured in the shops, and customers poured it into stone jars or bottles. Although a quarter of the shops offered bottled milk by 1910—often at the same price as loose milk—this form of hygienic milk packaging did not gain wide recognition or acceptance.²³

8. The development of the retail milk trade in Munich remains inexplicable if one does not consider the relative proportions of male to female personnel involved. Although the changes in the retail trade offered an income to a great number of women, the main beneficiaries of the changes were men. The milk trade as a whole was characterised by an ever-widening gap between the increasing profits of men and the increasing self-exploitation of women (see Fig. 7.16).

The retail milk trade in Munich became increasingly female in character as the percentage of women in the entire sector grew rapidly. But while the number of men in the milk trade dropped, their position remained dominant. The men usually ran well-established shops with good chances

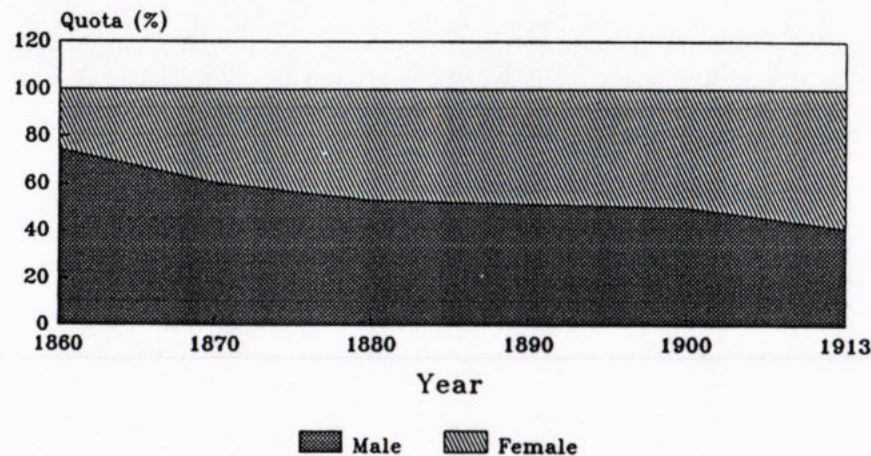


Fig. 7.16. Male and female retail milk dealers in Munich 1860–1913. (Sources: Author's analysis of Addressbuch, n.d. [1860]. Adreßbuch, n.d. [1870], [1880], [1890], [1900], [1913])

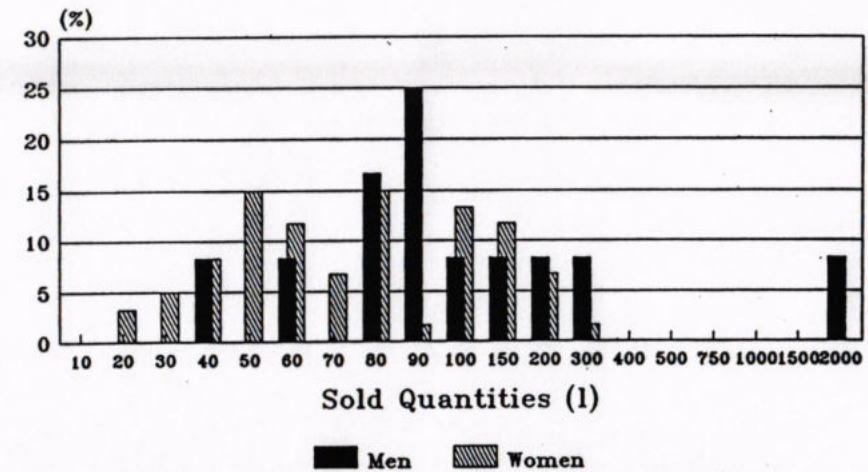


Fig. 7.17. Sales volume according to the sex of the retailers in Munich-Ludwigstraße 1903. (Source: Author's analysis of StA München Bezirksinspektionen 505)

of making profits, while women managed meagre part-time businesses, mostly as dependent functionaries of the wholesale dealers.

Proof of this situation is the larger quantities of milk sold in shops run by men. In the district of Munich-Ludwigstraße, these were three times as high, i.e. 270 litres sold by men compared to 82 sold by women (see Fig. 7.17). Men also owned the majority of the new, well-to-do dairies. Only 19 of 113 dairies for the year 1913, (i.e. about seventeen per cent) were run by women.²⁴ The average numbers conceal a development which meant above-average profits for men. For many women there was nothing left for them but:

An unhappy, dreary life, illness and premature death because of the incessant long working hours (from five in the morning to nine at night), an inferior offspring which is denied the blessings of the mother's breast (because the women has to take up her business again four or five days after the delivery), a wretched existence in damp cellar dwellings; these are some of the worst characteristics of this kind of working life. And the worst is that years of destitution and oppression have made them dull, that they do not hope for any improvement, that they are impervious to the beneficial thought of organized self-help.²⁵

9. There were incidents of milk adulteration in the retail trade, but on a relatively small scale and this also showed a tendency to decline. The agricultural sector was much more problematic in terms of an hygienic milk supply.

The milk co-operatives had a positive attitude towards the considerable controls in Munich, which led to a milk supply that met

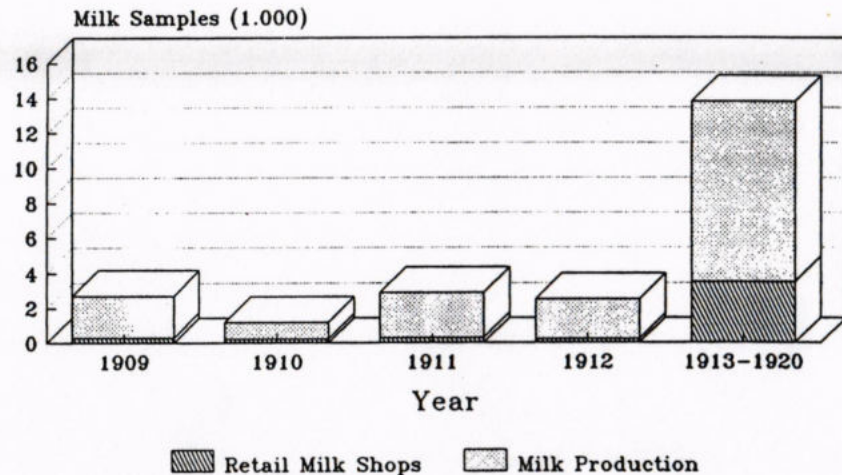


Fig. 7.18. Adulterated milk samples in retail trade and milk production 1909–1920. (Sources: Bericht, n.d. [1910–1913]. Verwaltungsbericht, n.d. [1920])

contemporary standards. Nevertheless, more than 1,000 cases of milk adulteration per annum were reported at the beginning of the twentieth century. But it is most instructive to see where these adulterations occurred.

According to Fig. 7.18, there had been one milk adulteration per ten to fifteen milk shops per year, which was hardly a very serious situation. It was in the area of milk production, however, as Fig. 7.19 hints, that the real problem lay; the rate of milk adulteration here was four to ten times greater than in the retail trade.

10. *The contemporary debate about an hygienic milk trade was by no means a discourse about real conditions. Being only insufficiently based on facts, it has to be understood, on the one hand, as a discourse by doctors and hygienists aimed at establishing themselves professionally, and on the other, as the conspiratorial talk of men about women.*

Contemporary scholars were not aware of this development of the milk trade. Their comments on the milk supply portrayed the retail milk trade as being very dubious indeed. Neither did they think in terms of the development the retail trade had gone through in the past, or consider the perspective of the consumer who had to rely on the decentralised distribution of milk. Most scholars thought only in absolute terms in relation to their technical and scientific norms and, therefore, were quick to call for 'elimination' and 'eradication' of the retail trade. To understand their restricted perspective, one has to consider also the scholars' personal positions; as persons with adequate positions, they

were the people most suited to meet the standards they themselves had set.

At the same time it is surprising that the discussion among exclusively male scholarly elites concentrated on the smallest shops in the milk trade. These shops, usually run by women, were described in a mode of language which implies repressed fears of women. Furthermore, the rigidity of the solutions implies hierarchical treatment of the other sex. Clearly one has to follow up such hints carefully, but it would seem that the picture of the retail milk trade painted by contemporary commentators is potentially very different from the one which I see. Thus, while the views of contemporary commentators must be carefully considered, nevertheless it is now obvious from my research that further investigation of this topic requires that, in addition to applying the usual methods of source criticism to the documentary sources, we

Fig. 7.19. *Die panschenden Bauern*²⁶



'Also, daß Du's weißt, der Apotheke hat g'esagt, auf an' Liter von dera Medizin für die Kuh kommt e' viertel liter wasser!'—'Guat, i' versteh' schon . . . des is ja g'rad' wie bei da milk!' ('So that you know, the pharmacist said to add a quarter of a litre of water to one litre of medicine for the cow!' 'Well, I understand . . . it is just the same as with the milk!')

must also recognise in them something of a contemporary expression of *zeitgeist*.²⁷

NOTES AND REFERENCES

- 1 In contrast to Great Britain the history of retailing in Germany is virtually unexplored, but I hope to give some first impressions in this regard in my forthcoming doctoral thesis: *Kleinhandel in Kaiserreich. Fallstudien zu Hamburg und München*.
- 2 This lecture is a condensed version of the author's larger unpublished text *Milchkleinhandel im Wandel. Eine Fallstudie zu München 1840-1913*, containing comprehensive lists of sources and literature.
- 3 These and following are from *StA München Gewerbeamt 5322* . . .
- 4 Cf. G. Bauschinger, *Das Verhältnis von städtischer Selbstverwaltung und königlicher Polizei in München im 19. Jahrhundert*, Jur. Diss., München, 1968; M. Block, *Die Verfassung der Stadt München von 1818-1819*, Jur. Diss., München, 1967.
- 5 For a general survey see Pappe, 1975.
- 6 Feser, 1878, 7: 'In München, wo schon seit 30 Jahren eine geordnete, bisher von den städtischen Thierärzten gut geleitete Milchcontrole existirt, sind bedeutendere Milchfälschungen verhältnismässig selten'. (Deliberate milk adulteration is relatively seldom in Munich where well-regulated milk control, previously undertaken by veterinary surgeons, has existed for 30 years.) For a contrary view, cf. Hauner, 1858, 132-133.
- 7 See especially: 'Schreiben der Königlichen Regierung von Oberbayern an den Stadtmagistrat München' v. 26.1.1861 in *StA München Gewerbeamt 5322* . . .
- 8 'Milchverkauf- und Beschauordnung', 12.8.1862 in *Adreßbuch*, n.d. [1879], 121-122.
- 9 E.g. 'Instruction . . .', 1877, 172-174.
- 10 'Ortspolizeiliche Vorschrift über den Verkehr mit Nahrungs- und Genußmitteln v. 12.1.1892, in *Adreßbuch*, n.d. [1894], 123-126; 'Bayern . . .', 1901; 'Ortspolizeiliche Vorschriften v. 5.10.1906, den Verkauf von Nahrungs- und Genußmitteln betreffend', in *Adreßbuch*, n.d. [1907], 209-210. Clevisch, 1909, 22 tells something about the national model role of Munich.
- 11 See Sendtner, 1901, 1109.
- 12 The best surveys of milk production are *Die Milchwirtschaft* . . ., 1910, and Arnold, 1911.
- 13 Data on the basis of *Adressbuch* . . ., n.d. [1860]; *Adreßbuch* . . ., n.d. [1870], [1880], [1890], [1900], and [1913]; *StA München Gewerbeamt* . . ., 106/1, *Ibid.* 104/3; 'Bericht . . .', 1889; 'Die Landwirtschaft . . .', 1890; Creuzbauer, 1903; 'Bericht . . .', n.d. [1909-1913]; *Gewerbestatistik* . . ., 1886; *Gewerbe-Statistik* . . . 1898; *Gewerbliche Betriebsstatistik* . . ., 1910; Fiack, n.d. [1910].
- 14 Teuteberg, 1976 contains only data for all milk products. *Idem.* Teuteberg, 1981.
- 15 Forster, 1873, 387-390; Forster, 1877, 192, 214; Dehn, 1880, 852-855; Abelsdorff, 1900, Anhang; *Erhebungen* . . ., 1902, 24; *Erhebungen* . . ., 1903, 32-33; Conrad, 1909, 54; *Haushaltungsrechnungen* . . ., 1909, 82; 'Warum müssen wir Arbeiter . . .?', 1912; 'Ein Arbeiter-Haushaltungsbudget . . .', 1913; Krziza, 1915, 244; Jentszsch, 1920, 325; Patschoky, 1918, 605, 613; Welker, 1916, 95.
- 16 Escherich, 1887.
- 17 The *Gründerkrise*, 1873, resulted from the economic speculation victory foundation of the German Empire, 1870-1871 and began a period of economic depression which lasted until 1879 at least. A quantitative upturn in the Munich retail milk trade was possible after the so-called *Gründerkrise* since: (1) it was a crisis

affecting primarily heavy industry and the financial sector, (2) the rents of many shops were quite cheap, and (3) it was quite attractive to invest in the consumer sector since it was less sensitive to the depression. During the depression began the real spatial growth of the town and because of this many shops were established in less-populated areas of the town. Cf. R.H. Tilly, *Vom Zollverein zum Industriestaat. Die wirtschaftlich-soziale Entwicklung Deutschlands 1834 bis 1914*, München, 1990, 78-83.

- 18 *Adreßbuch* . . ., n.d. [1871]; n.d. [1881]. These data are based on the author's own analysis of *Adreßbuch* . . ., n.d. [1871] - n.d. [1881]. As the Munich Directories do not contain any information about the retail milk trade in their trade and business chapters, it was necessary for the writer to check the names, professions and addresses of nearly 600,000 people on the alphabetical list of inhabitants in order to arrive at the presented data.
- 19 Information about the *Bassinwagen* in *Ein Wegweiser* . . ., 1912; Erlbeck, 1911, 64; Dallmayr, 1912; *Bericht* . . ., n.d. [1907]. Sources for the milk trade of Munich consumer co-operatives are particularly *Der Konsumverein* . . . 1906, 944, 1147, Beck, n.d. [1921], 105-106, 116-117 and *Konsum-Verein* . . ., 1926, 39.
- 20 E.g. Creuzbauer, 1903.
- 21 The Hamburg chemist Dunbar estimated 60-80 litres sales per day in 1903 in the German Empire (Pröls, 1904, 530). Munich showed 120 litres in 1910 (without grocery milk).
- 22 Clevisch, 1909, 22-23.
- 23 Fiack, n.d. [1910], 8.
- 24 These data are based on author's own analysis of *Adreßbuch* . . ., n.d. [1914]. Cf. also note 16 above.
- 25 Dallmayr, 1912, 88.
- 26 ('Adulterating farmers') from 'Schnell begriffen', *Fliegende Blätter*, 139, 1913, Nr. 3546, 10.
- 27 Because of restrictions of space many additional aspects of the Munich milk trade could not be dealt with in this paper: for example, the associations in the retail trade, the integration of the milk trade in discount savings societies, the interaction between the retail and the wholesale trade, the question of milk wars, changes in production, and so on. It is likely that future research into these problems will qualify some of my statements in this paper.

SOURCES AND LITERATURE

Primary Sources

- StA München Bezirks-Inspektionen 505: Betreff: Statistische und sonstige Erhebungen (1881-1920).*
- StA München Gewerbeamt 104/3: Act des Magistrats der königl. Haupt- & Residenzstadt München. Gewerbestatistik 1870-1887.*
- StA München Gewerbeamt 106/1: Vergleichende Zusammenstellung der Zahl der Gewerbe u. freien Erwerbsarten in München in den Jahren 1846, 1861 u. 1867 nebst Auszug hieraus.*
- StA München Gewerbeamt 5322: General-Acten des Magistrats der Königl. Haupt- und Residenzstadt München. Betreff Milchhandel in specie Milchniederlagen (1838-1861).*

Secondary Sources

- W. Abelsdorff, *Beiträge zur Sozialstatistik der Deutschen Buchdrucker*, Tübingen/Leipzig, 1900.
- Adreßbuch für München und Umgebung 1914*, München, n.d. [1913].

- Adreßbuch für München und Umgebung 1908, München, n.d. [1907].
- Adreßbuch von München für das Jahr 1901, hg. v. d. kgl. Polizei-Direktion, München, n.d. [1900].
- Adreßbuch von München für das Jahr 1895, hg. v. d. kgl. Polizei-Direktion, München, n.d. [1894].
- Adreßbuch von München für das Jahr 1891, hg. v. d. kgl. Polizei-Direktion, München, n.d. [1890].
- Adreßbuch von München für das Jahr 1881, hg. v. d. kgl. Polizei-Direktion, München, n.d. [1880].
- Adreßbuch von München für das Jahr 1880, hg. v. d. kgl. Polizei-Direktion, München, n.d. [1879].
- Adreßbuch von München für das Jahr 1871. Nach amtlichen Quellen bearb. v. M. Siebert, München, n.d. [1870].
- Adressbuch von München für das Jahr 1861. Im Auftrage der Königlichen Polizeidirektion München aus amtlichen Quellen bearb. v. M. Siebert, München, n.d. [1860].
- 'Warum müssen wir Arbeiter uns der Sozialdemokratie anschließen?', *Münchener Post*, (1912), Nr. 8 v. 12.01.
- 'Ein Arbeiter-Haushaltbudget', *Münchener Post*, (1913), Nr. 4 v. 05.01.
- P. Arnold, 'Zur Frage der Milchversorgung der Städte', *Jahrbücher für Nationalökonomie und Statistik*, 96 (1911), 585-642.
- 'Bayern. München. Ortspolizeiliche Vorschriften über den Verkauf von Kindermilch. Vom 29. Dezember 1899', *Zeitschrift für Untersuchung der Nahrungs- und Genußmittel*, 4 (1901), 45.
- H. Beck, *Die Konsumvereine Münchens*, RStWiss. Diss., Würzburg, n.d. [1921].
- 'Schnell begriffen', *Fliegende Blätter*, 139 (1913), Nr. 3546, 10.
- 'Bericht über die Ergebnisse der berufsstatistischen Erhebung vom 5. Juni 1882 in München', in: *Mittheilungen des Statistischen Bureaus der Stadt München*, Bd. 7, München, 1889, 1-338.
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1912*, *Verwaltungsbericht*, München, n.d. [1913].
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1911*, T. I: *Verwaltungsbericht*, München, n.d. [1912].
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1910*, T. I: *Verwaltungsbericht*, München, n.d. [1911].
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1909*, T. I: *Verwaltungsbericht*, München, n.d. [1910].
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1908*, T. I: *Verwaltungsbericht*, München, n.d. [1909].
- Bericht über den Stand der Gemeinde-Angelegenheiten der Kgl. Haupt- und Residenzstadt München für das Jahr 1906*, T. I: *Verwaltungsbericht*, München, n.d. [1907].
- Gewerbliche Betriebsstatistik, Abt. V: Großstädte*, hg. v. Kaiserlichen Statistischen Amte, Berlin, 1910. (Statistik des Deutschen Reichs, Bd. 217).
- W. Beukemann, 'Der Milchverbrauch der Städte. Sein Zusammenhang mit den Landesverhältnissen und dem Wohlstande der Bewohner', in: *Bericht über die Allgemeine Ausstellung für hygienische Milchversorgung im Mai 1903 zu Hamburg*, hg. v. d. Deutschen Milchwirtschaftlichen Verein, Hamburg, 1904, 95-130.
- A. Clevisch, *Die Versorgung der Städte mit Milch*, Hannover, 1909.
- E. Conrad, *Lebensführung von 22 Arbeiterfamilien Münchens. Im Auftrage des Statistischen Amtes der Stadt München dargestellt*, München, 1909. (Einzelschriften des Statistischen Amtes der Stadt München, No. 8).
- A. Creuzbauer, *Die Versorgung Münchens mit Lebensmitteln. Eine volkswirtschaftliche Studie*, München, 1903.
- A. Dallmayr, *Milchversorgung und Milchkriege der Stadt München. Ein Beitrag zur Lösung der 'Milchfrage'*, München, 1912.

- P. Dehn, 'Deutsche Haushaltungsbudgets. III. Bayerische Budgets', *Annalen des Deutschen Reichs*, (1880), 843-855.
- Erhebungen der königlich Bayerischen Fabriken- und Gewerbe-Inspektoren über das Bierbrauergewerbe (Beilagenheft zu den Jahresberichten für 1902.)*, München, 1903.
- Erhebungen der königlich Bayerischen Fabriken- und Gewerbe-Inspektoren über das Müllergewerbe (Beilagenheft zu den Jahresberichten für 1901)*, München, 1902.
- A.R. Erlbeck, 'Städtische Milchversorgung', *Soziale Revue*, 11 (1911), 56-69. H. Escherich, 'Die Ursachen und die Folgen des Nichtstillens bei der Bevölkerung Münchens', *Münchener Medizinische Wochenschrift*, 34 (1887), 233-235, 256-259.
- J. Feser, *Die Polizeiliche Controle der Markt-Milch. Zwei Vorträge*, Leipzig, 1878.
- Fiac: *Milchversorgung der Stadt München am 10. Oktober 1910*. (Ergebnisse einer besonderen Erhebung.). Sonderabdruck aus Mitteilungen des Statistischen Amtes der Stadt München, Bd. XXIII, s.l., n.d. [München 1910].
- J. Forster, 'Ueber die Kost in Armen- und Arbeitshäusern', in C. Voit (Hg.), *Untersuchung der Kost in einigen öffentlichen Anstalten. Für Aerzte und Verwaltungsbeamte zusammengestellt*, München, 1877, 186-215.
- J. Forster, 'Beiträge zur Ernährungsfrage', *Zeitschrift für Biologie*, 9 (1873), 381-410.
- Gewerbestatistik nach der allgemeinen Berufszählung vom 5. Juni 1882, I. Gewerbestatistik des Reichs und der Großstädte, Th. 2: Gewerbestatistik der Großstädte*, hg. v. Kaiserlichen Statistischen Amt, Berlin, 1886. (Statistik des Deutschen Reichs NF, Bd. 6, Th. 2).
- Gewerbe-Statistik der Großstädte*, bearb. im Kaiserlichen Statistischen Amt, Berlin, 1898. (Statistik des Deutschen Reichs NF, Bd. 116).
- Hauer: 'Bericht über das elfte (sic!) Jahr des mit dem Kinderhospitale zu München verbundenen Ambulatoriums', *Journal für Kinderkrankheiten*, 31, (1858), 121-155.
- 320 Haushaltungsrechnungen von Metallarbeitern*, bearb. u. hg. v. Vorstand des Deutschen Metallarbeiter-Verbandes, Stuttgart, 1909.
- 'Instruction für die Markt- und Bezirks-Inspectoren zur Vornahme der Victualien-Beschau in München', *Correspondenz-Blatt des Niederrheinischen Vereins für öffentliche Gesundheitspflege*, 6, (1877), 166-177.
- 1875-1975. *100 Jahre Städtestatistik in München*, München, n.d. [1975].
- 'Münchener Jahresübersichten für 1906', in: *Mitteilungen des Statistischen Amtes der Stadt München*, Bd. 21, München, 1907, H. 2, 1*-100.*
- 'Münchener Jahresübersichten für 1903', in: *Mitteilungen des Statistischen Amtes der Stadt München*, Bd. 18, München, 1904, H. 4, 1*-96.*
- 'Münchener Jahresübersichten für 1895', in: *Mitteilungen des Statistischen Amtes der Stadt München*, Bd. 14, München, 1896, 37*-72.*
- W.H. Jentzsch, 'Das Wirtschaftsbuch eines Kunstmalers', *Allgemeines Statistisches Archiv*, 12, (1920), 316-329.
- Konsum-Verein Sendling München 1886-1926. Jubiläums-Schrift anlässlich des 40jährigen Bestehens des Vereins und Jahres-Bericht über das 40. Geschäftsjahr vom 1. Juli 1925 bis 30. Juni 1926*, München, 1926.
- 'Der Konsumverein Sendling-München (e.G.m.b.H.)', *Konsumgenossenschaftliche Rundschau*, 3, (1906), 943-944.
- 'Der Konsumverein Sendling-München', *Konsumgenossenschaftliche Rundschau*, 3, (1906), 1147.
- A. Krziza (Bearb.), *259 deutsche Haushaltungsbücher geführt von Abonnenten der Zeitschrift 'Nach Feierabend' in den Jahren 1911-1913*, Leipzig, 1915.
- Die Landwirtschaft in Bayern. Denkschrift nach amtlichen Quellen bearb.*, München, 1890.
- 'Der Münchener Marktverkehr in den Jahren 1890 und 1892 mit Rückblicken auf die Vorjahre', in: *Mittheilungen des Statistischen Amtes der Stadt München*, Bd. 11, München, 1893, 301-391.
- Die Milchwirtschaft in Bayern*, München, 1910. (Beiträge zur Statistik des Königreichs Bayern, H. 78).

- W. Morgenroth, 'Die Kosten des Münchener Arbeiterhaushalts in ihrer neueren Entwicklung', in: F. Eulenburg (Hg.), *Kosten der Lebenshaltung in deutschen Großstädten*, T. 2: West- und Süddeutschland, München/Leipzig, 1914. (Schriften des Vereins für Socialpolitik, Bd. 145, T. 2), 269-305.
- F. Patschoky, 'Untersuchungen über die Lebenshaltung bayerischer Familien während des Kriegs (II)', *Zeitschrift des K. Bayerischen Statistischen Landesamts*, 50 (1918), 592-626.
- Pröls: 'Die Milchversorgung unserer Grosstädte unter Anlehnung an die Hamburger Milchausstellung 1903', *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, 36 (1904), 508-534.
- E. Frhr. v. Reitzenstein, *Die Milchversorgung der Stadt München, ein Beitrag zur oberbayerischen Milchwirtschaft*, Techn. Diss. TU München, Kempten, 1930.
- W. Schiefferdecker, *Ueber die Ernährung der Bewohner Königsberg's und anderer grosser Städte. Ein Vortrag, Königsberg, 1869*.
- R. Sendtner, 'Ueber die Bedeutung der ambulanten Thätigkeit bei der Ausübung der Lebensmittelkontrolle', *Zeitschrift für Untersuchung der Nahrungs- und Genußmittel*, 4 (1901), 1106-1115.
- Verwaltungsbericht der Landeshauptstadt München 1913-1920 (1. Januar 1913 bis 31. März 1920)*, bearb. v. Statistischen Amte der Stadt München, München, n.d. [1920].
- C. Voit, 'Ueber die Kost in den Volksküchen', in Ders. (Hg.), *Untersuchung der Kost in einigen öffentlichen Anstalten. Für Aerzte und Verwaltungsbeamte zusammengestellt*, München, 1877, 14-65.
- 'Ein Wegweiser für hygienischen Milchausschank', *Concordia*, 19 (1912), 271.
- G. Welker, *Die Münchener Erhebung über den Lebensmittelverbrauch im Februar 1915. Eine statistische Studie*, München/Berlin/Leipzig, 1916.
- C. Wibmer, *Medizinische Topographie der k. Haupt- und Residenzstadt München*, H. 2, München, 1862.
- Zaubzer: 'Zum Milchconsum der Stadt München im Jahre 1882', *Annalen der städtischen allgemeinen Krankenhäuser zu München*, 7 (1883), 437-443.

Literature

- O. Pappe, *Zur Geschichte der Lebensmittelüberwachung im Königreich Bayern (1806-1918)*, Chem. Diss., Marburg, 1975.
- H.J. Teuteberg, 'The Beginnings of the Modern Milk Age in Germany', in: A. Fenton/T.M. Owen (Eds.), *Food in Perspective. Proceedings of the Third International Conference on Ethnological Food Research, Cardiff, Wales, 1977*, Edinburgh, 1981, 283-311.
- H.J. Teuteberg, 'Der Verzehr von Nahrungsmitteln in Deutschland pro Kopf und Jahr seit Beginn der Industrialisierung (1850-1975). Versuch einer quantitativen Langzeitanalyse', *Archiv für Sozialgeschichte*, 19 (1976), 331-388.

SELECT BIBLIOGRAPHY

- F. Anderegg, *Allgemeine Geschichte der Milchwirtschaft (vom Altertum bis zur Gegenwart)*, Zürich, 1894.
- P. Arnold, 'Zur Frage der Milchversorgung der Städte', *Jahrbücher für Nationalökonomie und Statistik*, 96 (1911), 585-642.
- P. Arnold/M. Sering (Hg.), *Milchwirtschaftliche Erzeugnisse*, München/Leipzig, 1912-1915 (Schriften des Vereins für Socialpolitik, Bd. 140, 1-5).
- Beschreibung der milchwirtschaftlichen Verhältnisse im Deutschen Reiche*, Berlin, 1895.
- W. Beukemann, 'Der Milchverbrauch der Städte. Sein Zusammenhang mit den Landesverhältnissen und dem Wohlstande der Bewohner', in: *Bericht über die*

- Allgemeine Ausstellung für hygienische Milchversorgung im Mai 1903 zu Hamburg*, hg. v. d. Deutschen Milchwirtschaftlichen Verein, Hamburg, 1904, 95-130.
- H. Brüning, *Geschichte der Methodik der künstlichen Säuglingsernährung. Nach medizin-, kultur- und kunstgeschichtlichen Studien*, Stuttgart, 1908.
- A. Clevisch, *Die Versorgung der Städte mit Milch*, Hannover, 1909.
- W. Engeling, *Handbuch für die praktischen Käseret*, Leipzig² 1901.
- W. Fleischmann, *Das Molkereiwesen*, Braunschweig, 1875-1879.
- W. Fleischmann, (Ed.): *Lehrbuch der Milchwirtschaft*, Leipzig, ¹1908, ²1901, Bremen, ²1898, 1898.
- E. Freund, *Milchwirtschaftliche Maschinen und Geräte*, Berlin, 1908.
- Der Handel mit Milch und Molkereiprodukten. Verhandlungen und Berichte des Unterausschusses für Gewerbe: Industrie, Handel und Handwerk (III. Unterausschuß), 9. Arbeitsgruppe (Handel)*, Bd. 6, Berlin, 1929.
- Heusner, 'Ueber Nutzen und Einrichtung der Milchcontrole in Städten', *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, 9 (1877), 43-63.
- O. Kamp, 'Der öffentliche Milchausschank in Rheinland und Westfalen', in: *Die gemeinnützige Milchversorgung in Deutschland*, München/Leipzig, 1914 (Schriften des Vereins für Socialpolitik, Bde. 140, 5), 111-164.
- v. Klenze, *Handbuch der Käserei-Technik*, Bremen, 1884.
- C. Knoch, *Die Magermilch-Verwertung in der Molkereien. Zusammenstellung der verschiedenen Verwertungsmethoden*, Leipzig, ²1912.
- B. Martiny, *Die Milch, ihr Wesen und ihre Verwertung*, 2 Bde., Danzig, 1871.
- Die Milch und ihre Bedeutung für Volkswirtschaft und Volksgesundheit. Dargestellt im Auftrage der wissenschaftlichen Abteilung der Allgemeinen Ausstellung für Hygienische Milchversorgung Hamburg 1903*, Hamburg, 1903.
- Die Milchwirtschaft in den verschiedenen Gergenden Deutschlands*, hg. v. Milchwirtschaftlichen Vereinen, Danzig, 1877.
- v. Ohlen, 'Die Bekämpfung der Säuglingssterblichkeit durch öffentliche Organe und private Wohlthätigkeit mittels Beschaffung einwandfreier Kindermilch unter specieller Berücksichtigung Hamburger Verhältnisse', *Zeitschrift für Hygiene und Infektionskrankheiten*, 49 (1905), 199-281.
- A. Schlossmann, 'Milchhandel und Milchregulative', in: P. Sommerfeld (Hg.): *Handbuch der Milchkunde*, Wiesbaden, 1909, 836-978.
- R. Schreiber, *Die gesetzliche und polizeiliche Regelung des Milchverkehrs in Deutschland*, Rwiss. Diss. Erlangen, Kempten, 1912.
- F. Soxhlet, 'Ein verbessertes Verfahren der Milch-Sterilisierung', *Münchener Medizinische Wochenschrift*, 38 (1891), 335-339, 353-356.
- O. Trüdinger, 'Die Milchwirtschaft in Württemberg', *Württembergische Jahrbücher für Statistik und Landeskunde 1907* (1908), II.68-II.97.
- J.F. Voigt, *Geschichtliches über die Versorgung Hamburgs mit Milch*, Hamburg, 1903.