

DISCUSSION PAPER:

Comparative Institutional Advantage and the Global Ceramic Industry: A Historical Analysis of the Stoke-on-Trent Ceramic Tableware Cluster.

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Introduction

This paper presents the main empirical findings of one chapter from the author's Ph.D dissertation. The research focuses on institutional change within the UK ceramic tableware manufacturing sector since the end of the Second World War. The sector, synonymous with the famous names of Minton, Royal Doulton, Spode and Wedgwood to name but a few, and other ceramic sectors have traditionally been clustered around six towns in North Staffordshire, which subsequently became the city of Stoke-on-Trent in 1925. By the mid-nineteenth century, the region had established a world-leading position as a centre for ceramics, particularly in the design and production of quality fine bone china and earthenware tableware and kitchenware. It maintained this position for over a hundred years. However, in recent years the UK ceramic tableware sector's position has declined significantly, with many firms struggling to adapt to changing market demands or compete, in both domestic and export markets, with low-price competition from Eastern Europe and the Far East. This has led to a number of closures in Stoke-on-Trent and the outsourcing of production to low-cost developing economies, which have contributed to high-levels of unemployment in the city.¹ This situation is illustrated by the figures presented in Table 1 for UK manufacturers' sales of porcelain or china tableware and kitchenware.

For the post-war period, 1997 represented the peak for UK sales of ceramic tableware and kitchenware. However, sales have decreased significantly since then. The figures for porcelain or china tableware and kitchenware presented in Table 1 illustrate this decline². This

¹ For example, in 2006, whilst its ceramics division accounted for just over sixty-eight per cent (€528m) of its total revenues (€773m), Waterford-Wedgwood's UK-based operations accounted for less than seventeen per cent (€128m) of its group's total revenues. Although a more precise breakdown is unavailable, based on these figures, the total revenues received from the group's UK-based operations were equivalent to just twenty-four per cent of those received from its ceramics operations (Waterford-Wedgwood Plc. Group Accounts 2006).

² The decline in sales of 'Porcelain or China Tableware and Kitchenware' (PCC26211130/ CN691110) during this period was indicative of the overall decline in the sales of other product categories of ceramic tableware by UK manufacturers. UK manufacturers' sales of 'Ceramic Household & Ornamental Articles' (PRA26210), of which sales of 'Porcelain and China Tableware and Kitchenware' constituted thirty-five per cent in 1997, decreased by

identifies the significant shift in the UK total net balance for this commodity from £33m in 1997 to -£2m in 2005. This progression, from a major net exporter to net importer, was primarily the result of a sixty-seven per cent decrease in extra-EU exports and a one hundred and seventy-eight per cent increase in extra-EU imports. All this occurred at a time when the UK market net supply decreased by thirty per cent.

Table 1: UK Sales of Porcelain or China Tableware and Kitchenware (PCC26211130/ CN691110) 1997 and 2005.

	Value (£)		% Change 1997 to 2005
	1997	2005	
UK Manufacturers' Sales	70,884,532	24,710,044	-65.14
Intra-EU Exports	8,696,895	6,897,237	-20.69
Intra-EU Imports	5,162,037	6,784,921	31.44
Net Balance	3,534,858	112,316	-96.82
Extra-EU Exports	33,955,882	11,200,103	-67.02
Extra-EU Imports	4,723,856	13,116,964	177.67
Net Balance	29,232,026	-1,916,860	-106.56
Total UK Exports	42,652,778	18,097,341	-57.57
Total UK Imports	9,885,893	19,901,885	101.32
Net Balance	32,766,885	-1,804,544	-105.51
UK Market Net Supply	38,144,880	26,514,588	-30.49

Source: The Office for National Statistics (ONS) 1999, 2005 (indexed 1960=100).

A proposed explanation regarding the decline of the UK ceramic tableware sector is changes in global competition and demand, and technology transfer to developing economies (Froebel et al 1980). The performance of other established European ceramic tableware manufacturing nations during the same period would, however, appear to counter this explanation.³ An explanation regarding these comparative performances proposes the impact of changing consumer tastes and lifestyles that favour Continental porcelain over the traditional Stoke-on-Trent specialisations on earthenware and bone china products. However, case studies

sixty per cent between 1997 and 2005, from £201m to £80m. Sales of 'Earthenware or Fine Pottery Tableware, Kitchenware, Other Household Articles and Other Toilet Articles' (PCC26211250/ CN69120050), which constituted the largest share of 'Ceramic Household & Ornamental Articles' (PRA26210) in 1997 with thirty-six per cent, decreased by fifty-one per cent during this period, from \$73m in 1997 to £35m in 2005. During the same period, sales of 'Other Ceramic Tableware, Kitchenware, Other Household Articles and Other Toilet Articles' (PCC26211290/ CN69120090) (two per cent of total sales of PRA26210 in 1997) and 'Common Pottery Tableware, Kitchenware, Other Household Articles and Other Toilet Articles' (PCC26211210/ CN69120010) (one per cent of PRA26210 in 1997) decreased by eighty-three per cent and sixty-four per cent respectively. The only increase in sales during this period was for 'Stoneware Tableware, Kitchenware, Other Household Articles and Other Toilet Articles' (PCC2621230/ CN69120030) (five per cent of PRA26210 in 1997) which increased by four per cent (ONS 1999, 2005 (1960=100)).

³ For instance, the performance of French and German tableware manufacturers. Between 1997 and 2005, whilst UK exports of 'Tableware and Kitchenware of Porcelain or China' (CN691110) declined by fifty-four per cent, German exports decreased by just two per cent, from \$121m to \$119m, whilst French exports increased by fifteen per cent, from \$40m to \$45m. Like the UK, both nations also experienced increases in their imports for this commodity. This saw the German net trade balance decrease from \$62m to \$49m, whilst that of France decreased from \$3m to -\$13m (UN COMTRADE (1960=100)).

conducted as part of the dissertation have demonstrated the continued success of quality product market strategies for earthenware and bone china manufacturers in Stoke-on-Trent. As an alternative explanation, the dissertation explores how institutional factors have influenced the success and decline of the ceramic tableware cluster in North Staffordshire. For example, the case studies identified that ceramic tableware manufacturers based in the city today are faced with issues in relation to the availability of committed, motivated and skilled labour, and limited technology and knowledge transfer, local supply networks and cooperative inter-firm relations. These issues have had particularly strong effects on small and medium-sized manufacturers relative to their larger counterparts. These findings are significant on two accounts. Firstly, smaller specialist manufacturers have traditionally constituted the largest proportion of firm numbers, employment, exports and output in the cluster, in addition to representing a principal source of product specialisation and innovation. Secondly, the issues identified by the case studies represent comparative advantages traditionally associated with the UK ceramic tableware sector's clustering within North Staffordshire.

The dissertation examines the post-war adjustments in the Stoke-on-Trent ceramic tableware cluster using an institutional framework. This involves a comparative historical analysis between the institutional arrangements of the present-day cluster and the cluster in the 1960s. This second period is significant on two accounts. Firstly, it represented a period of significant growth for the UK ceramic tableware sector, and the beginning of its most sustained period of growth (1963-80) since the end of the war.⁴ Secondly, it represented an important stage in the Stoke-on-Trent cluster's post-war development, with the coexistence of its traditionally characteristic small and medium-sized family run manufacturers and the emerging large corporations that would come to dominate the cluster. The comparative historical analysis is structured in accordance with Hall and Soskice's (2001) Varieties of Capitalism institutional domains; corporate governance, industrial relations, vocational training and education, and inter-firm relations. Table 2 presents the main empirical findings of this comparative historical analysis.

This paper presents the main empirical findings of the first comparative case of the 1960s Stoke-on-Trent ceramic tableware cluster. This analysis has identified the continued existence of, what many perceive to be, the cluster's traditional 'craft' institutional arrangements during this important transitional period. These included local, private ownership and traditional labour management, individual and internal employment relationships, individual workplace bargaining and output-based wage-determination mechanisms, decentralised recruitment and internal labour markets, continuous workplace training and development, and individualistic competition coupled with social solidarity through informal inter-firm relationships and networks. These various, largely informal sets of institutions had strong self-reinforcing properties that can be understood with the concept of institutional complementarities and the comparative institutional advantages they presented to

⁴A precise international commodity code for ceramic tableware is not available for this period. However, at this time, a large proportion of pottery (CN666) exports from the UK were in domestic ware. Using data from the *National Trade and Navigation Accounts* and the British Pottery Manufacturers' Federation, Gay and Smyth (1974) identified that in 1963 domestic ware accounted for sixty-five per cent of UK pottery exports, and in 1967 this had increased to seventy-one per cent. Despite slight decreases in 1966, 1967 and 1976, between 1963 and 1980 UK pottery exports increased annually by an average ten per cent; from \$39m in 1963 to \$178m in 1980. In 1967, UK pottery exports were \$48m, which positioned the UK the third largest exporter of pottery, with nineteen per cent of total world exports. This was behind Japan, the largest exporter, with thirty-four per cent and Germany with twenty-two per cent. The 1960s also saw a significant increase in its UK pottery trade balance. For example, this rose from \$33m in 1963 to \$41m in 1967, and only Japan witnessed a larger increase in its pottery net trade balance during this period (UN COMTRADE (1960=100)).

firms. These comparative advantages were in relation to, not only, domestic and foreign competition, but also other ceramic sectors and industries in the region with which ceramic tableware manufacturers competed for resources, particularly labour.

Table 2: The Findings of the Dissertation’s Comparative Historical Analysis between the 1960s and Present-Day Stoke-on-Trent Ceramic Tableware Clusters

<i>Characteristic Unit</i>	Comparative Case	
	1960s	Present-Day
<i>Characteristic Unit</i>	Small and Medium-Sized Enterprises	Large Corporations
Corporate Governance:		
Ownership	Private, Local	Public, National and International
Managerial and Supervisory Staff	Owner-Managers, ‘Old Type’ Conditions of Labour Management	Bureaucrats
Authority	Traditional/ Master-Servant	Legal/ Bureaucratic
Industrial Relations:		
Employment Relationship	Individual, Internal,	Collective, Internal or External
Level of Bargaining	Individual	Sector- or Firm-/ Plant-Level
Wage-Determination Mechanisms	Output (Piece-Rates)	Input (Day- and/ or Hour-Rates)
Vocational Training and Education:		
Recruitment	Decentralised, Internal Labour Markets	Centralised, External Labour Markets
Training and Development	Internal, Decentralised, Continuous	Internal and External, Centralised, Ad Hoc
Inter-Firm Relations:		
Formal	Local-Level Pottery Industry and Tableware Sector Interests	National Ceramics Industry Interests
Informal	Dense, High-Specificity	Limited, General

Table 3: The Structure (number of firms and total employment) of the Pottery Industry in North Staffordshire by Product in 1959

	Size Group															
	1-25		26-50		51-100		101-250		251-500		501-1000		1000+		Total	
	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.	Firms	Total Empl.
General	20	204	8	391	14	1,144	38	7,004	23	8,223	8	5,211	-	-	111	22,177
Earthenware																
China	10	100	2	76	5	492	19	2,994	7	2,408	1	693	-	-	44	6,763
Tiles	6	49	5	218	7	607	14	2,015	5	1,542	3	2,145	-	-	40	6,567
Electrical	-	-	-	-	1	61	4	812	5	1,629	2	1,612	-	-	12	4,114
Porcelain																
Sanitary	-	-	1	75	2	161	1	240	4	1,280	-	-	-	-	8	1,756
Earthenware																
Sanitary Fireclay	-	-	-	-	-	-	2	366	1	250	-	-	-	-	3	625
Pottery Decorating	33	263	3	105	1	84	1	170	-	-	-	-	-	-	38	622
Kiln Furniture	1	4	3	107	1	96	-	-	-	-	-	-	-	-	5	207
Mills	21	261	6	192	3	203	1	163	-	-	-	-	-	-	31	819
Mixed	-	-	-	-	-	-	2	360	1	394	1	817	2	2,954	6	4,525
Totals	91	881	28	1,164	34	2,848	82	14,124	46	15,735	15	10,478	2	2,954	298	48,184

Source: Ministry of Labour and National Service (1959)

Table 4: The Age Distribution within the North Staffordshire Pottery Mark Sample 1774-1974.

Age (No. of years in operation)	At End of Year																	
	1774		1799		1824		1849		1874		1899		1924		1949		1974	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-9	5	55.56	17	37.78	63	54.78	77	60.63	97	54.19	116	45.14	11	6.29	18	15.13	3	6.00
10-19	4	44.44	22	48.89	29	25.22	26	20.47	38	21.23	66	25.68	20	11.43	5	4.20	3	6.00
20-29	-	-	2	4.44	7	6.09	9	7.09	21	11.73	35	13.62	39	22.29	11	9.24	4	8.00
30-39	-	-	1	2.22	8	6.96	2	1.57	7	3.91	12	4.67	46	26.29	6	5.04	4	8.00
40-49	-	-	3	6.67	5	4.35	3	2.36	-	-	8	3.11	24	13.71	9	7.56	2	4.00
50-99	-	-	-	-	3	2.61	10	7.87	13	7.26	13	5.06	26	14.86	57	47.90	24	48.00
100+	-	-	-	-	-	-	-	-	3	1.68	7	2.72	9	5.14	13	10.92	10	20.00
Mean Number of Years in Operation at End of Year	9		14		13		14		16		18		40		55		77	

The 1960s Comparative Case

The structure of the pottery industry in North Staffordshire in 1959 is presented in Table 3. At this time, tableware manufacturers constituted the majority of firms in the general earthenware and china product categories. These two categories collectively accounted for fifty-two per cent of total firm numbers and sixty per cent of total employment.⁵ The dominance of smaller, in particular medium-sized (100-500 employees), firms in these two product categories, as with the pottery industry generally, is demonstrated by the average numbers employed. On average general earthenware firms employed two hundred employees, compared with one hundred and fifty-four for china firms. This is compared to the industry average of one hundred and sixty-one employees.

In a study into the changing patterns of labour in the North Staffordshire pottery industry during the nineteenth century, Whipp (1990) identified the emergence of a three tier structure by the mid-nineteenth century. In the first tier were the smallest firms (<100 employees), with limited capital and resources, often producing many cheap products that were either imitations of larger firms' designs or produced on their behalf on a subcontracting basis. In the third tier were large firms (>500 employees) that often operated multi-site plants producing more than one of seven possible ware types.⁶ The second tier consisted of medium-sized firms (100-500 employees) characterised by a single ware type produced on a solitary site, and, unlike their smaller counterparts in the first tier, these medium-sized firms could be specialists with high-quality output for specific markets.

Evidence for the continuing significance of Whipp's (1990) second tier by the 1960s was provided by Cooper et al's (1970) study into the export strategies of British domestic and ornamental ware manufacturers between 1955 and 1966. This found no correlation between increased firm size (in terms of number of employees) and export success (measured by the proportion of total output exported). Instead, it identified that 'to a fairly remarkable degree' smaller manufacturers had not only competed successfully in major export markets via quality product market strategies, but had also often exported the largest proportions of their total output. These findings had been contrary to the authors' findings regarding other manufacturing industries in the UK.⁷

By the mid-1970s the structure of the Stoke-on-Trent ceramic tableware cluster had changed considerably, which saw a decline in the predominance of Whipp's (1990) historic second tier. For instance, using a sample created from two reports by Jordan Dataquest for the UK tableware industry in 1976 and 1978, it is possible to illustrate the dominance of the cluster by public quoted and subsidiaries by this time. Of the fifty-three separate Stoke-on-Trent ceramic tableware firms in the sample, forty-three per cent were classified as subsidiaries,

⁵ In relation to the UK, in 1959 North Staffordshire accounted for seventy-five per cent of the total number of 'General Earthenware' firms in the UK and ninety-four per cent of employment. For 'China', this stood at ninety-four per cent and ninety-one per cent respectively (Ministry of Labour and National Service 1959).

⁶ Earthenware, china, Jet and Rockingham, sanitary ware, electrical ware, chemical ware and tiles.

⁷ Further evidence is provided by the leading role played by this second tier in the growth of the UK pottery industry in the 1960s. For instance, between 1963 and 1968 the gross output of the pottery industry increased by thirteen per cent, from £70m to £78m. In 1963, firms in the third tier collectively accounted for sixty-six per cent of the pottery industry's total gross output, with firms employing more than one-thousand employees alone accounting for forty-eight per cent. In contrast, the second tier accounted for thirty per cent and the first tier four per cent. However, in 1968, the third tier's collective share of gross output had decreased to forty-seven per cent, whilst the second and first tiers' shares had increased to forty-seven and six per cent respectively. During this period the collective gross output of the second tier increased by seventy-seven per cent (£16m). This was compared with a net decrease of twenty per cent (£9m) for the third tier and a net increase of seventy per cent (£2m) for the first tier (Census of Production 1963, 1968 (1960=100)).

thirty-six per cent as private owned, thirteen per cent as foreign owned and eight per cent as public quoted. Furthermore, for the 1974-5 financial year, subsidiaries accounted for fifty-four per cent of the total turnover of Stoke-on-Trent ceramic tableware firms in the sample, forty-one per cent of total exports and fifty per cent of profits before tax, whilst public quoted firms accounted for forty-eight per cent of total UK employees and forty-seven per cent of wages and salaries. The increasing concentration within the cluster is highlighted in relation to those firms included in the sample that were part of the Wedgwood (Wedgwood Ltd.) or Pearson (S. Pearson & Son Ltd. – the owner of the Royal Doulton Tableware group) groups. In the sample, firms in these two groups collectively accounted for sixty-one per cent of total turnover (forty and twenty-one per cent respectively), fifty-nine per cent of total exports (thirty-four and twenty-five per cent) and seventy per cent of total profits before tax (fifty-two and eighteen per cent). The concentration within the cluster has increased further over recent years as the result of continued numbers of closures, mergers and acquisitions. In particular, the acquisition of Royal Doulton by the Waterford-Wedgwood Group in 2005, itself formed following Wedgwood's own acquisition by the Irish Waterford Crystal Group in 1986.⁸

Corporate Governance

Since its origins in the late-eighteenth century, the principal sources of finance in the North Staffordshire pottery industry had been private capital and savings, short-term credit, and retained operational earnings. It had not always been necessary for entrepreneurs to purchase factory premises and the necessary equipment outright. Evidence for this is provided by the numerous advertisements in local newspapers and trade journals for leasable premises (Elliot 2004). However, although the sources of finance used remained constant in the pottery industry, the nature and type of new start-ups and their legal status began to change during the mid-nineteenth century. The data presented in Table 4 illustrates the traditional short-term nature of many new start-ups in the North Staffordshire pottery industry up until the turn of the twentieth century. This shows the age distribution of a sample of active independent pottery marks in North Staffordshire between 1774 and 1974.⁹ Short-term start-ups (<20 years) were a prominent feature during the nineteenth century, not falling below seventy per cent until after 1899 and with a peak of eighty-one per cent of all active independent marks at the end of 1849. One hundred years later however, the proportion of short-term start-ups declined and stood at just twelve per cent at the end of 1974.

The longer-term nature of marks since the late-nineteenth century is further illustrated by the increasing mean number of years in operation after 1899. This rose from eighteen years

⁸ Although over recent years outsourcing has reduced the group's share of the UK ceramic tableware sector, in 2006 the revenues received from Waterford-Wedgwood's UK-based operations equated to twenty-two per cent of total UK manufacturers' sales of ceramic household and ornamental articles (PRA26210), and, within this product category, thirty-one per cent of porcelain or china, earthenware, common pottery, stoneware and other ceramic tableware and kitchenware (PCC26211130/ CN6911110, PCC26211250/ CN69120050, PCC26211290/ CN69120090, PCC26211210/ CN69120010 and PCC2621230/ CN69120030). Furthermore, the revenues received from the group's ceramics operations were equivalent to one hundred and twenty-four per cent of UK manufacturers' sales of ceramic household and ornamental articles (ONS 2006, Waterford-Wedgwood Plc. Group Accounts 2006).

⁹ This data has been generated from antiquities and collectors' sources on the distinctive marks (i.e. back stamps) used to identify and differentiate between craftsmen and firms' products. Each craftsperson, partnership or firm had its own distinctive mark. The terms 'active' and 'independent' are used to distinguish between those still in operation at the end of the period and those still in operation as separate entities and not as subsidiaries of other local pottery firms.

at the end of 1899 to seventy-seven years at the end of 1974. These changes contributed to significant changes to the distribution of mark ages in the sample after 1899. The proportion of 'old' marks (≥ 50 years) increased significantly from just under eight per cent of all active independent marks at the end of 1899, to stand at fifty-nine per cent at the end of 1949 and sixty-eight per cent at the end of 1974. At the end of 1874, the largest group was 0-9 years with fifty-four per cent of all active independent marks. However, by the end of 1974 the 50-99 years age group represented the largest group with forty-eight per cent.

Since the turn of the twentieth century, the type of new start-ups in the North Staffordshire pottery industry increasingly changed. This development explains the changes in Table 4. It saw the increasing hegemony of limited companies over short-term partnerships. This is illustrated by the increasing levels of mark inheritance in the active independent mark data, coupled with changes in the types of marks used. Instead of changing the arrangements of an existing partnership, this development saw new partners, almost always a close relation, enter into the existing arrangements. This had a number of strategic implications for firms;

- i. It limited the possible disruption and, therefore, enhanced the continuity when changing between new owners or different generations of the incumbent owner-family.
- ii. It facilitated the development of longer-term strategies. These included investments in research and development for product innovation and specialisation for quality product market strategies, the substitution of short-term for long-term leases or the acquisition of premises outright and investments in new buildings, facilities, equipment and machinery.
- iii. It enabled the establishment of overarching firm brands and reputations, which would extend beyond those of any individual craftsman or woman, designer or product range.
- iv. It enabled the substitution of subcontracting with the direct employment of craftsmen and women and the establishment of longer-term labour management policies. This enabled the establishment of internal recruitment and training policies for developing and binding the necessary, and often firm-specific, skills and expertise for specialist and quality product market strategies.

As identified by Cooper et al (1970), the quality product market strategies that these developments had enabled had a determinant role in the growth of the UK ceramic tableware sector during the 1960s. For example, Machin and Smyth's (1969) conclusions regarding the financial performance of Minton – a long-established specialist bone china tableware manufacturer based in the cluster – during the 1960s presents a pertinent example:

'This firm has been referred to as the Rolls Royce of the industry. Its profits record is most surprising, up until 1967 it earned less than £50,000 each year. Clearly profits were not the first consideration of Minton, their objective must have been to make the best possible bone china without making losses. Again the question may be asked if a firm with a tradition and world-wide reputation of Minton regularly made less than £50,000 profit each year, what were the profits earned by firms without reputations and less well-endowed with tradition?' (Machin & Smyth 1969: 84)

In the post-war period, a number of firms in the Stoke-on-Trent ceramic tableware cluster had been involved in mergers and acquisitions. This had either involved merging with or acquiring other firms in the sector themselves or by becoming subsidiaries of large local, national and international pottery and non-pottery corporations. However, despite this, family ownership and management continued across large sections of the cluster in the 1960s.

Furthermore, in cases where firms had undergone mergers and acquisitions to form or become part of larger corporations, many features of their previous family management persisted. Firms would often continue to operate as disintegrated subsidiaries, producing the same products through existing processes, from their existing sites, with previous owner-managers often remaining employed as works directors and managers. These disintegrated structures also presented a number of additional resources, including the availability of additional capital and resources, specialised management knowledge and expertise, collective research and development and training facilities, extended distribution, marketing and sales functions, and/or membership of certain trade and business associations.

In relation to the second comparative case of the present-day Stoke-on-Trent ceramic tableware cluster, over recent years it has been dominated, in terms of total output, exports and employment, by a small number of large, public-listed corporations. For Pugh and Padley (2000), this concentration represented a key factor behind its recent decline, with the fortunes of a handful of firms becoming increasingly critical to the fortunes of the UK ceramic tableware sector, the Stoke-on-Trent cluster and the city itself. Furthermore, the nature of the Stock Exchange, on which these corporations had been listed, had not been conducive with the cyclical dynamics of ceramic tableware production:

‘The Stock Market is driven by short-term profits. This is not conducive to an industry that ... is cyclical. When the downturn occurs, share prices fall dramatically ... senior management are expected to be seen to act. Announcements such as ‘rationalisation and job cuts’ and “returning to our core business” (and therefore, by definition cutting back on potentially the most innovative areas of the company) are seen as positive steps by the Stock Market for short-term profits. These actions, however, fail to understand the nature of the pottery industry and so hasten decline’. (Pugh & Padley 2000: 17)

The progression from local, privately-owned to national and international, publicly-owned firms coincided with the decline in the standing of the ceramic tableware sector in Stoke-on-Trent. This has had an impact on both the entrepreneurial culture within the cluster and contributed to a number of significant labour management issues, in particular in the area of recruitment. Potential new-recruits within the city, in particular school-leavers, are often actively discouraged from entering the tableware and other ceramic sectors. Furthermore, although the reverence of the cluster’s forefathers, in addition to the advances they made and the products they produced, continues to this day, many people in the city disassociate themselves from the current ceramic tableware sector. It has been reported that some would like to see the remnants of the tableware and other ceramic sectors disappear from the area altogether. Indeed, there have also been proposals to change the city/ region’s unofficial name from ‘The Potteries’. For many, these sentiments emerged long before the cluster’s recent decline, during a period of significant industrial change in the 1970s and early-1980s.

Industrial Relations

In 1970, the National Board for Prices and Incomes (NBPI 1970) identified that workplace bargaining was a widespread feature of the pottery industry, with only a ‘minority’ of workers’ earnings directly determined by the industry-wide agreement (NJC (National Joint Council of the Pottery Industry) Wage Structure). Over half of the pottery industry’s total adult workforce was reported to be affected by output-based wage-determination mechanisms,

and such systems, in particular piece-work, were more widespread across the ceramic tableware sector. Workplace bargaining of rates in the pottery industry, particularly in North Staffordshire, was orchestrated internally through informal and, in the view of the NBPI (1970), ‘unsatisfactory’ arrangements and not through any firm- or plant-level arrangements:

‘In practice piecework prices appear to be fixed largely by piecemeal bargaining without much reference to any but extremely subjective and unsystematic standards. It has been suggested that this pragmatic approach has the advantage of flexibility, but by the same token it does not form an objective basis for establishing rates which are related to efficient levels of working.’ (NBPI 1970: Paragraph 36)

The findings of the NBPI (1970), regarding the operation of the annual NJC Wage Structure as a mechanism to establish minimum wage-levels and conditions of work, paralleled the findings of the Donovan Commission in 1968. This reported the coexistence of two systems of industrial relations in the UK. A formal system, operated through official industry-wide written agreements, and an informal system, through tacit agreements and understandings within an individual plant or organisational unit between managers, shop stewards and workers (Clegg 1980).

In the 1960s Stoke-on-Trent ceramic tableware cluster, informal workplace bargaining system were the product of internalised labour management policies (Gospel 1992). Firms in the cluster relied upon quasi-familial, personal relationships to ensure the discipline and work performance of their employees and internal labour management policies represented an important feature of these relationships. These policies involved internal labour markets, workplace training and development, internal promotion opportunities and job ladders and making every effort to make every employee’s employment permanent. The central principle underlying these policies was an internalised employment relationship between the employee, as an individual, and their employer, represented by an owner-manager or an employee’s immediate manager, foreman or supervisor. This was facilitated by the prevalence of, what Benedix (1956) termed, the ‘old type’ conditions of labour management. Under these conditions managerial and supervisory staff carried out a range of labour management activities, including the organisation of production and worker recruitment, discipline, training and development, motivation and welfare, within their organisational units.

In return for their commitment and loyalty, through the acquisition and transformation of skills, the taking on of additional tasks and responsibilities and length of service, workers were presented with a number of financial and fringe benefits. The financial benefits included individually-negotiated rates, alternative wage-determination mechanisms, changes to the organisation of production to facilitate their increased input/ output and/ or preference in the allocation of ‘good ware’ that either had higher rates or with which they could maximise their output. For many workers the foremost benefit of individual workplace bargaining was that they could identify a direct relationship between their personal input, in terms of effort as well as commitment, discipline and loyalty, and their output, whether the form of the financial or other fringe benefits associated with their progression up informal job ladders.

For many firms in the cluster, particularly small and medium-sized manufacturers, fringe benefits represented one of the few means by which they could compete in the local labour market. Many were unable or unwilling to pay higher wages and offering them was also deemed an unfair form of competition (‘labour stealing’). One important fringe benefit was enhanced job security. Employers would often go to great lengths to protect committed and loyal employees; looking to ride out downturns with short-time or production for stock and, as a very last resort, releasing low-skilled newcomers. Such practices led to accusations of

‘labour-hoarding’ by some competitors, as well as other ceramic sectors and industries in the region. As a result workers would often remain with the same firms their entire careers.

Another important fringe benefit was the development of employment opportunities for others. Analogous to Benedix’s (1956) cases in the early twentieth century, the personal relations and loyalties of the ‘old type’ conditions of labour management in the 1960s Stoke-on-Trent ceramic tableware cluster were fundamental in the operation of recruitment policies. Furthermore, because they themselves would not always know enough people, managerial and supervisory staff would often ask existing employees to bring with them people who, they in turn, knew personally. These people were almost always family, or at least close friends. For example, in the experience of one worker recruited through this ‘being spoken for’ system:

‘... me mum worked on [a medium-sized ceramic tableware manufacturer] and that was how I went to work on there. She put a word in for me with the manager and he said: “Yeah, we’ll find him a job”. ... And I started in the dipping house. ... It was one of the main things that happened then. A lot of the times jobs weren’t advertised. People found out that there were jobs available and they’d say: “Oh, my cousin wants a job” or “My son wants a job” ... And they would set them on just like that.’

The organisation of production and structure of the workplace were important factors behind the effective operation of these recruitment policies. The characteristic fragmentation and separation of production processes within the cluster restricted the size, in terms of numbers of employees, of the organisational units over which many managers, foremen and supervisors presided. This limited the numbers of recruits required at any given time. As a result, personal and family networks and the ‘being spoken for’ recruitment system were sufficient to meet individual organisational units’ recruitment requirements, often resulting from natural wastage. If insufficient, additional recruits would then be found from outside the organisational unit but within the firm’s wider internal labour market or those ‘spoken for’ by other workers but not from within the unit. For instance, ‘unspoken for’ recruits would often enter firms at relatively low-skilled positions, such as labourers or ‘odd men’, before being promoted to the training system of a particular trade or occupational group. As a last resort firms would recruit from the external labour market. In many of the highest skilled trades and occupational groups it was rare to be recruited onto a training scheme as an ‘unknown’ ‘straight off the street’. In some larger firms and organisational units however, or those faced with larger labour turnovers, although still present to an extent personal and family networks and the ‘being spoken for’ system could not supply the larger numbers of recruits required. External labour markets were therefore relied upon more heavily.

A traditional product associated with internal recruitment policies in the North Staffordshire pottery industry was the establishment of long-standing associations of worker-families with particular firms. This remained a feature of the 1960s ceramic tableware cluster. Some workers could even trace successive generations of their families working within particular organisational units. The ‘being spoken for’ system presented a number of additional labour management benefits to employers;

- i. A supply of recruits. In the experiences of one employee:

‘... it [the ‘being spoken for’ system] was of great benefit to the employer because most of the jobs were filled by word of mouth, so you didn’t have to recruit people, sort of nationally, locally it would work quite efficiently, I would imagine, because as soon as there was a vacancy somewhere, they only had to have the right word with the right

manager, and if that manager knew that you came from a good working stock and that you were dependable, then you got the job. Whereas, interviewing techniques and recruitment of unknown people was something which they never even considered...'

- ii. It developed a sense of appreciation, and therefore commitment and loyalty, from workers and their families towards their employers.
- iii. The employment of new-recruits alongside senior family members, and their subsequent respect for and subordination to seniority, complemented the skill and length of service elements of internal training and promotion policies.
- iv. It presented an informal selection and disciplining process. Potential recruits would not be recommended if they were not deemed, by the recommender, to be appropriate. This was because an unsatisfactory recruit might adversely impede their own, or their family's, employment relationship, and therefore their future employment and earning prospects. Alternatively, by the same measure, an underperforming recruit or incumbent employee would often be chastised by their original recommender. In the experience of one worker:

'... ... they knew that if one of the family come out to work, the others would. ... The only drawback with that was if I did anything wrong like ... then me dad knew all about it.'

Internal labour management policies, combined with differences in the organisation of production, presented ceramic tableware firms with critical comparative advantages over other ceramic sectors and industries in the region with which they competed for labour. For instance, in an examination into the difficulties experienced by the pottery industry's trade union (then the Ceramic and Allied Trades Union (CATU)) in penetrating the ceramic tableware sector on a large-scale during the post-war period, Gregory and Smyth (1971) identified significant cross-sectoral variations in the concentration of female workers:

'The major problem associated with recruitment into the CATU has been the predominance of women in the industry's workforce; 32,000 women and 29,000 men in 1969. There is a particularly high concentration of women in the tableware sector of the industry where 63 per cent of the labour are women. In contrast the sanitary ware sector has a 91 per cent male labour force. It is significant that the sanitary ware sector of the industry exhibits a particularly high level of union "consciousness".' (Gregory & Smyth 1971: 10)

However, the dissertation explores whether the difficulties encountered by CATU and the high concentration of female workers in the ceramic tableware sector were in fact not directly connected. It considers whether the comparative difficulties encountered by CATU were due to the higher geographic concentration of the tableware sector and the continuation of internalised employment relationships and labour management policies on a much larger scale than in other ceramic sectors. Combined with significant differences in the organisation of production, this meant that the nature and type of employment opportunities available in the ceramic tableware cluster contrasted significantly to those in other ceramic sectors and industries. The NBPI (1970) identified that alternative employment opportunities, which included flexible and part-time hours and homework, often represented the only means by which some, particularly smaller, ceramic tableware manufacturers could compete in the highly-competitive labour market. For example, the alternative employment opportunities available in the ceramic tableware sector enabled many female workers in the city to fit work

around childbirth and domestic life. One female worker recalled the significant, and to an extent unparalleled, employment opportunities presented by the ceramic tableware sector in the city compared with working in a retail outlet:

‘... when I was married and I started back to work, it was the only place where I could get ... a part-time job ... ‘cause ... if you went in a shop [retail outlet] at the time, they wanted you full-time and of course, naturally, you got to work weekends in a shop as well... So, I went back again into a factory and I did part-time there ... I think I did a bit of full-time as well, at times, you know because, you got better wages on a factory than you did on a shop...’

The majority of the remaining ceramic tableware manufacturers in the present-day cluster conduct wage bargaining at a sector- or firm-/ plant-level with CATU and other trade unions. Wages are predominantly determined by output-based, such as day- or hour-rate, mechanisms and many firms also operate firm- or plant-level productivity bonus schemes. Organisational restructuring and changes to the organisation of production have removed many of the fringe benefits identified in the first comparative case of the 1960s cluster.¹⁰ The dissertation explores these changes in relation to a number of significant labour management issues, notably recruitment and employee commitment and motivation, experienced by firms in the present-day cluster. For instance, in an ethnographic study of one large Stoke-on-Trent ceramic tableware manufacturer, Jones (1961) had been taken aback by the high-levels of commitment and loyalty across all levels of the firm:

‘Everywhere, I came across instances of this watchfulness for the firm’s interests. Dan, for example, would go round to see if any moulds were getting worn and take me to fetch fresh ones from the store. “Don’t want the firm to have to scrap any till they’ve got to – it all costs money,” he remarked on one of these trips. In any factory, of course, there are charge-hands and supervisors who take this attitude. But they are normally regarded by the other workers as having gone over to the other side in a natural conflict of interests. In the potbank, it was ordinary workers, paid no more than their mates, who identified themselves with the management. Loyalty in the Potteries is not a sneer but a watchword.’ (Jones 1961: 162)

In contrast to Jones’ (1961) observations, commitment and loyalty represent significant issues to firms in the present-day cluster. These issues principally take the form of high-levels of labour turnover and absenteeism. Coupled with the afore-mentioned recruitment problems, these issues have contributed to staff and skill shortages in a number of key areas. In particular,

¹⁰ For example, many of the alternative employment opportunities, particularly for female workers, have disappeared from the ceramic tableware sector. In 2000, the Association for Ceramic Training and Development reported the gender distribution across the United Kingdom ceramics manufacturing industry, of which tableware and giftware represented sixty-two per cent of employment. The report identified that sixty-nine per cent of the ceramics workforce was employed as plant or machine operatives compared with sixteen per cent craft and related occupations and eight per cent as managers or administrators. In terms of occupational breakdown, male employees dominated seven out of the nine identified occupational groups; managers and administrators (sixty-eight per cent), professional occupations (seventy-three per cent), associate professional and technical (sixty-five per cent), craft and related occupations (sixty per cent), sales (sixty-seven per cent), plant and machine operations (fifty-one per cent) and other staff (ninety-eight per cent). It was found that female employees outnumbered their male counterparts in clerical and secretarial (ninety-four per cent) and personal and protective services (eighty per cent) (ACTD 2000). The Staffordshire LSC (2003) confirmed the high proportion of full-time employees, with eighty-two per cent of the ceramics workforce in the West Midlands reported to be full-time. Furthermore, with the centralisation of recruitment activities personal networks and loyalties and the ‘being spoken for’ recruitment system disappeared from the sector.

the traditional production skills crucial for some quality product market strategies. This has seen some firms employ increasing numbers of workers from Eastern Europe.¹¹

Vocational Training and Education

As the previous section identified, recruits would often be selected from internal labour markets, whether existing employees in low-skilled positions or new-entrants provided by personal and family networks and the ‘being spoken for’ recruitment system. They would then be trained in the workplace either by their immediate manager, foreman or supervisor or by association with an incumbent worker in a particular trade or occupational group. After their initial training, which could last between six weeks and eighteen months, workers were then encouraged, through the various financial and fringe benefits, to acquire new, or transform their existing, skills and take on additional tasks and responsibilities. At the lowest level their development involved ‘getting their speed up’, whilst maintaining the necessary levels of accuracy and quality, to maximise their earnings, with the coordination, disciplining and/ or training of others as managerial or supervisory staff at the highest level of their development path. A fundamental determinant underlying the training and other labour management policies was the continued craft nature and firm-specificity of many skill requirements. Many of these requirements, in addition to the necessary judgement, speed and dexterity, took many years to acquire through association, observation and repetition.

In addition to providing the necessary skills and expertise required for their production processes, the type and decentralised nature of workplace training and development presented a number of additional advantages to firms;

- i. It developed a flexible workforce with high-levels of expertise and knowledge regarding ranges of products or entire stages of production. Although the application and structure of particular production processes often differed significantly between firms, generally the division of labour in the ceramic tableware sector was not as acute as in other sectors or industries. As a result skill specialisations related to entire stages of production, for example throwing, casting, dipping, decorating or firing, as opposed to specific tasks or sub-processes within them. Consequently, workers would develop broad specialisations to deal with a high variability within stages of production, such as for producing different tableware products, using different consistencies or types of materials, or firing requirements. Furthermore, the nature of the training and development required workers to develop a capacity to continually learn new products and processes without impinging on or reducing existing skill specialisations and knowledge.
- ii. The resulting skill specialisations represented an important buffer against change and variability for firms. In many instances, workers would acquire more knowledge and expertise regarding products, production processes and types of equipment and machinery, than management or, indeed, specialist technologists. The firm-specificity of this decentralised expertise and knowledge within firms was accentuated in the

¹¹ This is in a city that has one of the lowest proportions of people in employment in the UK, whether full-time, part-time or self-employed, ranked three hundred and forty second out of three hundred and seventy-six local authorities in England and Wales. Furthermore, it has the seventieth highest rate of unemployment and the twentieth highest level of economically inactive people, permanently sick or disabled, which is seventy per cent above the national average (‘Stoke-on-Trent City Council website).

ceramic tableware sector because the organisation of production, the age, type and application of equipment and machinery, and the consistency of materials varied significantly. In some cases, equipment and machinery, such as ovens and kilns, was very old, second-hand and/ or custom-built. Consequently, having been initially apprenticed and then working for many years in particular stages of production, organisational units, with particular materials, and on products, particular pieces or equipment and machinery workers would develop, in some respects latent, firm-specific knowledge, skills and practices that were often only brought to the fore when problems arose or they were faced with significant change and variability. .

Training and development in the present-day ceramic tableware cluster is predominantly an ad hoc, needs-related process. For instance, in 2003 Staffordshire Learning and Skills Council (LSC) reported that ninety-one per cent of the ceramics manufacturing workforce in the West Midlands had not received job-related training within the preceding twelve month period. Only sixteen per cent of the ceramics manufacturers surveyed had a written development plan, whilst seventeen per cent possessed a dedicated budget for training and 'Investor in People' status had been gained by seventeen per cent. Furthermore, for those firms identified to provide some form of training to their workforce, the primary reason for doing so was following the recruitment of new staff (Staffordshire LSC 2003).

In relation to the case studies operating in the present-day cluster, firm size was a primary determinant regarding internal and/ or external training and development. The three small case firms (<100 employees) carried out no internal or external training and development at all, whilst the medium-sized (100-500 employees) case firm undertook some training and development, although this concerned external, subsidised workforce retraining as part of a short-term restructuring process, whilst the two large case firms (>500 employees) carried out both internal and external training and development. The three small and the one medium-sized firm indicated that they were neither large enough to conduct their own internal training and development nor, in the case of the three small firms, even allow their employees time off to undertake external training and development.

Product market strategy was identified as another important factor regarding skill requirements and training provision. The quality product market strategies of the three small case firms continued to be based upon the decentralised skills, knowledge and expertise associated with traditional craft production processes, whilst the, more-automated, medium and large case firms relied upon alternative, more-centralised inputs for their quality product market strategies. Furthermore, the workplace environments required to develop the traditional skills, knowledge and expertise have not existed in the cluster for many years. Consequently, the three small and one medium-sized case firms were entirely dependent on the previous training and development provided to their existing workforces and previously trained individuals available in the external labour market as a result of closures or redundancies. As a result, the average age of the workforce in some occupational groups in these firms was high. Furthermore, combined with the afore-mentioned recruitment issues associated with the sector in the city, these firms identified that they were currently, or would be in the near future, reliant upon key workers continuing beyond their approaching retirement dates. As a result, they had managed to hold off making significant changes to the organisation of production, and therefore product market strategies. However, they believed that, if the situation did not change, in the short- to medium-term these changes would be unavoidable.

Inter-Firm Relations

Although they connected the majority of ceramic tableware manufacturers across the cluster in the 1960s, instances of formal cooperation and coordination, such as the NJC Wage Structure, were often isolated and limited in scope to specific conserved issues and interests. Furthermore, these arrangements were also often exclusive to firms located within the cluster. One factor behind the limited scope of formalised arrangements was that the limited size of the cluster restricted the resources available for extensive formalised cooperation and coordination activities. Another factor was the continuation of the traditional divergences of interests across the cluster. For instance, Gay and Smyth (1974) identified significant cross-sectoral variations in the extent of formal cooperation in the British pottery industry. A greater degree of cooperation, on areas such as standardisation and promotion, had been achieved in industrial ceramics compared with the ceramic tableware sector, where divergences and conflicts of interests had been identified between large and small firms, and between sub-sectors.

The comparative absence of formalised inter-firm relations in the ceramic tableware sector, however, was not an indicator of the absence of cooperation. The traditional high-levels of social solidarity and rivalry remained a prominent feature of the North Staffordshire pottery industry' in the 1960s;

'It is a feature of the industry that the managers of firms which give every indication of being deadly rivals are willing and pleased to assist each other with advice or the loan of equipment or materials in an emergency.' (Gay & Smyth 1974: 51)

The high-levels of social solidarity and rivalry were a product of the concentration of the pottery industry in the region, and the long-standing traditions of family ownership and management. As a result owner-managers and other economic actors had been available to establish and, more-importantly, actively participate in informal relationships and networks. Consequently, a traditional feature of the pottery industry was the high-density and specificity of informal relationships and networks. Furthermore, specialisations within the industry, and its unequal distribution across the region, had seen informal relationships and networks established in relation to particular districts and towns (e.g. Burslem, Longton), sectors (e.g. sanitary ware, tiles, tableware), sub-sectors (e.g. fine bone china, earthenware) and/ or interests and issues (e.g. export and import quotas and tariffs, research and development, industrial relations). With time some of these local, informal relationships and networks had become formalised around specific conserved industry or sectoral interests and issues, such as the formation in the post-war period of the British Pottery Manufacturers' Federation, British Ceramic Research Association and British Pottery Promotion Service. However, although they subsequently incorporated outside parties, the nature of their formation and geographic distribution of their membership meant that these relationships and networks remained concentrated within North Staffordshire.

As a result of the continuation of family ownership and management, high-levels of informal inter-firm cooperation and coordination remained an important feature of the 1960s ceramic tableware cluster. An important factor underpinning these relations was the common ancestry and homogeneity of owner-managers¹², and their availability locally to actively

¹² Many owner-managers had formed a sense of collective identity; principally as the custodians of region's, whether the city or a particular town's, world-renowned industry. Furthermore, almost all had roots in the local communities within which their firms were embedded, had attended the same schools, trained and/ or worked

participate in existing, and develop new relationships and networks. These relationships were enhanced through local social interactions. Owners-managers of ceramic tableware firms were brought together, in addition to other economic actors, such as manufacturers from other ceramic sectors, customers, suppliers and ancillary industries, trade union officials, education and training providers, specialist research facilities, politicians and workers, by many local social clubs, organisations and events. For example, the Potters' Club was conceived in 1949 after it was realised that 'there was no place for member firms and members to meet socially, and for them to entertain and offer hospitality to their customers, including those from overseas who can be made honorary members for the period of their visit. Social relationships that come from such meetings, with the interchange of opinion and experience is important' (Scott 1970: 33). As a result informal relationships and networks would often transcend occupational and sectoral boundaries.

In addition to the specialist institutions, such as research facilities, design and technical colleges, and the formal and informal relationships and networks, the concentration within the city of sophisticated supply networks also provided significant comparative advantages to firms located in the cluster over domestic and foreign competition. In particular for smaller manufacturers that were unable to integrate various activities or processes or acquire particular resources individually. These supply networks represented a critical feature for firms as they sought to secure stable demand for their products, appropriate supplies of inputs and access to technology.

Gay and Smyth (1974) identified that the development of some local supply networks in the North Staffordshire pottery industry during the post-war period had resulted from the outsourcing of many previously integrated activities. For example, fewer firms continued to process their own bones, colours or flints, produce their own glazes or lithographs, or design, build and install their own equipment and machinery. One advantage of this development was the reduction in the research and development investment required by the pottery industry; as some of the newly-established suppliers connected a number of closely-related, but previously unconnected, sectors and industries.¹³ The concentration of the pottery industry in North Staffordshire was also fundamental in attracting many suppliers to the region. More sophisticated supply networks, which catered specifically for the particular demands of the ceramic tableware sector, had also developed as a result of ceramic tableware firms' internal training and development policies. This was also crucial for the organisational ecology of the cluster. The resulting skill specialisations that resulted from these policies provided the necessary product and process skills, knowledge and expertise required for new ceramic tableware manufacturing, supplier and customer start-ups.

The supply networks for manufacturers operating in the present-day cluster are now often located outside Stoke-on-Trent. For instance, many of the case studies' most important, long-term and collaborative relationships were with suppliers on the Continent, such as German and Italian equipment and machinery suppliers and French lithograph and print

together, sat on the same local councils and industry/ sector committees, and/ or were the descendents of potting dynasties. Their stewardship of their family, or indeed region's, industrial inheritance and history was also faced by common threats, whether this was low-price competition and price-cutting by domestic or foreign competition, the increasing hegemony of a small number of large corporations in some sub-sectors, the trade union or other industries looking to establish themselves in the city.

¹³ Gay and Smyth (1974) presented the example of William Boulton (Holdings) Ltd., established during the 1960s, which specialised in materials preparation equipment. The firm's equipment could be modified for processing clay for a number of ceramics sectors, but also had applications in the baking and pharmaceutical industries.

suppliers. For the case studies these experiences with suppliers were indicative of inter-firm relations within the present-day cluster. The smaller case firms in particular felt increasingly isolated and remote within the cluster. If necessary, they would use external, more-general relationships, networks, and trade and business bodies and associations, such as the North Staffordshire Chamber of Commerce & Industry and the Federation of Small Businesses, rather than the ceramics bodies and institutions that remain within the cluster. This was because of the limited informal relationships and networks available within the cluster, in addition to the associated costs and specialisations of the remaining formalised relationships and networks. However, the decline of the cluster over recent years has seen an increase in inter-firm cooperation and coordination across parts of the cluster.

Discussion

The first comparative case of the 1960s Stoke-on-Trent ceramic tableware cluster identified the continued existence of, what many perceive to be, the cluster's traditional 'craft' institutional arrangements during an important transitional period. These various, largely informal sets of institutions had strong self-reinforcing properties that can be understood with the concept of institutional complementarities and the comparative advantages they presented to firms. These comparative advantages related to, not only, domestic and foreign ceramic tableware manufacturers, but also other ceramic sectors and industries in the region with which the ceramic tableware manufacturers competed for resources, particularly labour. However, the second comparative case identified that these complementarities and comparative advantages have largely disappeared from the present-day cluster. All six case study firms questioned their necessity to remain located within the city, and indeed the UK, with more financially beneficial and incentivised opportunities available elsewhere. They remain, however, because of either loyalty to the city, the continuing significance of 'Made in Stoke-on-Trent' or 'Made in England' back-stamps to their customers and/ or the financial costs that would be incurred in relocating elsewhere.

In exploring the process of institutional change between the 1960s and present-day comparative cases, the dissertation has identified a chain of causation that incorporates a number of endogenous and exogenous variables. These include changes in legislation, market demand and domestic and international competition, competition for resources, and changing strategic choices, technology and the organisation of production. It considers whether these changes were simply the outcome of this chain of causation, or, alternatively, whether they were the result of the Stoke-on-Trent ceramic tableware cluster, as a sectoral economy, being, ultimately, 'locked in' an overarching set of institutional arrangements, which inhibited the development of alternative outcomes. For example, the adaptation and adjustment of the traditional, informally 'coordinated' institutions into more formally organized forms of 'coordination'. Possible evidence for this is presented by the fact that the changes in labour management illustrated in the Stoke-on-Trent ceramic tableware cluster were seen in other industries in the UK during the late-nineteenth and early-twentieth centuries (Benedix 1956, Gospel 1992). Therefore, had the geographic concentration of the ceramic tableware sector in the region prolonged this 'inevitable' outcome, and/ or did particular circumstances or events play some part in disrupting the cluster's traditional self-sufficiency, consequently opening the ceramic tableware sector up to overarching institutional arrangements?

The comparative outcomes for other nations' ceramics clusters to similar chains of causation might provide opportunities to explore in more detail the process of institutional

change examined in the dissertation. For instance, in the contemporary context, in addition to the afore-mentioned comparative performance of traditionally-clustered French and German ceramic tableware manufacturers, over recent years some key suppliers have relocated from Stoke-on-Trent in order to be nearer to manufacturers in two ceramic tile industrial districts in Italy (Sassuolo) and Spain (Castellon). A number of studies have examined the present-day institutional arrangements of these two districts and have identified a number of ‘craft’ institutional features analogous to those identified in the 1960s Stoke-on-Trent comparative case. Therefore, comparative historical analyses with the Stoke-on-Trent case would provide an effective framework to explore in greater detail the processes of institutional change involved. For instance, were the chains of causation experienced by the Italian and Spanish tile districts sufficiently different to that of the Stoke-on-Trent ceramic tableware cluster to result in alternative outcomes, or were the overarching institutional arrangements in which they were ‘locked in’ sufficiently different to enable the development of these alternative outcomes? Another historical comparative analysis would be between the Stoke-on-Trent case and the American ceramic clusters of East Liverpool, Ohio and Trenton, New Jersey. During the late-nineteenth and early-twentieth centuries, these two clusters underwent processes of institutional change which resulted in outcomes similar to that identified by the dissertation in the present-day Stoke-on-Trent ceramic tableware cluster. Therefore, to result in the development of these analogous outcomes, were the chains of causation experienced by the American and Stoke-on-Trent clusters sufficiently similar, or were they all, ultimately, ‘locked in’ to similar sets of overarching institutional arrangements that inhibited the development of alternative outcomes?

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