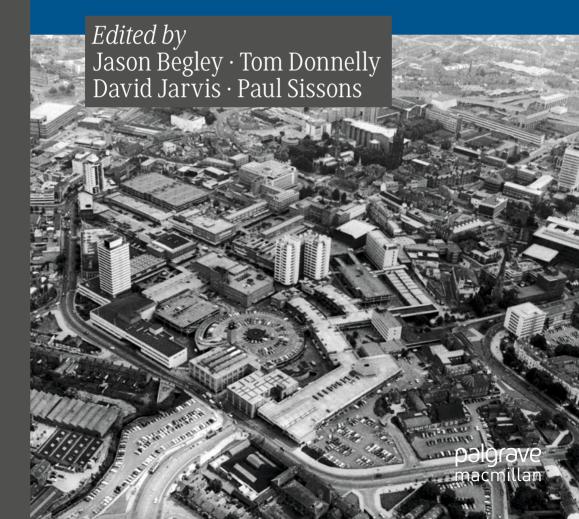


Revival of a City Coventry in a Globalising World



Palgrave Studies in Economic History

Series Editor
Kent Deng
London School of Economics
London, UK

Palgrave Studies in Economic History is designed to illuminate and enrich our understanding of economies and economic phenomena of the past. The series covers a vast range of topics including financial history, labour history, development economics, commercialisation, urbanisation, industrialisation, modernisation, globalisation, and changes in world economic orders.

More information about this series at http://www.palgrave.com/gp/series/14632

Jason Begley · Tom Donnelly · David Jarvis · Paul Sissons Editors

Revival of a City

Coventry in a Globalising World



Editors
Jason Begley
Coventry University
Coventry, UK

David Jarvis Coventry University Coventry, UK Tom Donnelly Coventry University Coventry, UK

Paul Sissons Coventry University Coventry, UK

Palgrave Studies in Economic History
ISBN 978-3-030-22821-7 ISBN 978-3-030-22822-4 (eBook)
https://doi.org/10.1007/978-3-030-22822-4

© The Editor(s) (if applicable) and The Author(s), under exclusive licence to Springer Nature Switzerland AG 2019

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover illustration: Trinity Mirror/Mirrorpix/Alamy Stock Photo

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Contents

1	Introduction Jason Begley, Tom Donnelly, David Jarvis and Paul Sissons	1
2	Coventry: A Growing City Tom Donnelly	11
3	Coventry at War: Industrial Relations, Ownership and Production Malte Busch	41
4	Coventry in the Long Boom 1950–1970 Michael Haynes	67
5	Recession and Relative Recovery Clive Collis	93
6	Affective Regeneration in Coventry Jonathan Kershaw	125

vi Contents

7	Population, Migration and Commuting Patterns in a Changing City Paul Sissons	143
8	Occupational Structure and Change in Post-war Coventry Jason Begley	165
9	The Rebirth of the Phoenix City—Sectoral Shifts and the Evolution of Coventry's Economic Base Myles Mackie	199
10	Toward a New Knowledge Economy? David Morris	229
11	Concluding Remarks Jason Begley, Tom Donnelly, David Jarvis and Paul Sissons	255
Ind	Index	

Notes on Contributors

Jason Begley is a an Assistant Professor at Coventry University and Academic Director for Postgraduate Researchers in the Centre for Business in Society. He has published in the fields of Economic History, Business History and Local Economic Development. His most recent research, looking at occupational change in the Nineteenth Century, has been published in the *Cambridge Journal of Economics*, while he has also recently co-authored an article on the history of the Rootes Group for the journal, *Business History*. He is currently a member of the European Network for the Comparative History of Population Geography and Occupational Structure 1500–1900.

Malte Busch is an Associate Lecturer in the School for Strategy and Leadership at Coventry University. His research focuses on the relationships between multinational companies, public actors and nongovernmental organisations and how a variety of stakeholders influence corporate social responsibility (CSR) approaches of companies, especially in the automotive industry. He has presented his research at different international and national CSR and management conferences and symposiums. Prior to the completion of his Ph.D. in 2018, Malte gained degrees at Strathclyde Business School and the Deggendorf

Institute of Technology. In addition to his academic activities, Malte has been playing a part in various projects for the consulting and trade company MayConsult for many years.

Clive Collis is an Emeritus Professor at Coventry University where he was formerly Head of the Department of Economics and Director of the Centre for Local Economic Development. He has published widely in the fields of local and regional development with particular reference to FDI, the automotive industry, retail decline and the labour market role of older workers. He has acted as consultant to the OECD and advisor to the UK Department of Employment.

Tom Donnelly is an Emeritus Professor at Coventry University. His research focuses on the international automotive industry with particular reference to Western Europe and China. Tom was a founder member of the Centre for Local Economic Development, the Centre for Business History and the Motor Industry Observatory, with all three now forming part of the Centre for Business in Society at Coventry University. Tom has also been a Visiting Professor at the Institut d'Administration des Entreprises at the University of Caen, Oulu University of Applied Sciences in Finland, and Silesian University in the Czech Republic. Finally, he has been active as an Associate Editor of the Dictionary of National Biography.

Dr. Michael Haynes is an economic historian who is Emeritus Professor of International Political Economy at the University of Wolverhampton and a former Joint head of the Management Research Centre in its Business School. Living in a neighbouring county, he regularly visited Coventry as a schoolchild after his parents acquired a car in the late 1950s. Professionally, he has written extensively on the economic and social development of Britain and Europe in the nineteenth and twentieth centuries.

David Jarvis is Reader in Local and Regional Economic Development and Co-Director of the Centre for Business in Society (CBiS) at Coventry University. David is also founding Academic Programme Director for the University's Professional Doctorate (DBA), and sits on the Management Group of the University's Future Transport and Cities (FTC) Research Centre. Alongside his academic leadership roles, David has secured, managed and delivered more than 70 research or

evaluation projects for clients across the public, private and charitable sectors. Particular areas of focus have been: Economic development and economic impact; Manufacturing sectors, clusters and economies; and Neighbourhood regeneration, faith and community.

Dr. Jonathan Kershaw graduated with his Ph.D. from Coventry University in 2016. His thesis appropriated the notions of affect and non-representational theory to explore the socio-cultural 'consumption' of the car and how our relationship with the car might impact upon the uptake of low carbon vehicles. His work applying affect theory to every-day activity has been published in the *Journal of Geography in Higher Education* and in *Transportation Part D: Transport and Environment.* He has also contributed to the e-book *Dialogues of Sustainable Urbanisation: Social Science Research and Transitions to Urban Contexts*, published in 2015 by the University of Western Sydney, and written more generally online about affect theory in automobility.

Myles Mackie, M.A., M.Sc. after teaching applied economic statistics at Cambridge University, he worked in the food industry before joining Coventry City Council. At the Council, he worked on business support and inward investment during the Thatcher years. From 1993, he was engaged on broader economic development issues, alternative fuelled vehicles use with Coventry businesses and key research on a wide range of policy issues. He retired in 2011 but continues to research and write articles for clients.

David Morris is a Professor of Business Development at Coventry University. He has been researching the automotive industry for over thirty years and has over sixty publications in the field. He was the founding Dean of Coventry Business School. Professor Morris also founded the Motor Industry Observatory which undertakes independent strategic analysis of the automotive industry worldwide. The MIO has been consulted by many major industry players and provides informed comment to the media. His current research activities are in the development of "smart mobility" strategies, connected cars and electric vehicles. His team are also working on the cybersecurity implications of developments in "connected cars".

x Notes on Contributors

Dr. Paul Sissons is a Reader in Employment Studies in the Centre for Business in Society, Coventry University. Paul's research focuses on spatial aspects of labour markets, low-wage work, labour market disadvantage, and local and regional economic development. His recent work has examined wage inequality in British cities, the links between economic growth and poverty reduction, policies to facilitate in-work progression, and employer approaches to productivity and pay.

List of Figures

Fig. 4.1	The growth of UK and Coventry car production	
	by Standard and Rootes 1951–1970	71
Fig. 6.1	Old Broadgate, looking south (1931 postcard—author's	
	collection)	134
Fig. 6.2	New Broadgate, looking south (1950s postcard—author's	
	collection)	135
Fig. 7.1	Coventry's total population (1981–2017)	148
Fig. 7.2	Internal migration—Coventry inflows and outflows,	
	2007–2017	149
Fig. 7.3	International migration—Coventry inflows and outflows,	
	2007–2017	150
Fig. 7.4	Coventry population who were born overseas	151
Fig. 7.5	Jobs filled in Coventry by Standard Occupation	
	Classification and whether Coventry resident	
	or in-commuters	156
Fig. 7.6	Median house prices (nominal) in Coventry	
	and surrounding districts, 1995-2018	160
Fig. 8.1	Occupational change in Coventry, 1984–1991	180
Fig. 8.2	Occupations identifiable under differing categories	
	of activity	181

xii List of Figures

Fig. 8.3	Regional gross disposable household income (GDHI)				
	at current basic prices	188			
Fig. 10.1	The main actors in economic development	241			
Fig. 10.2	Knowledge processes	242			

List of Tables

Table 2.1	Silk workers in Coventry 1821–1901	13
Table 3.1	Coventry Council estimated costs of road works	
	for shadow factories	55
Table 4.1	The changing employment structure of Coventry	
	1952–1966 (Thoms and Donnelly 1985, p. 152)	70
Table 4.2	Coventry town twinning 1944–1970	82
Table 5.1	Shift-share analysis for manufacturing employment	
	in Coventry, 1971–1978	102
Table 5.2	Shift-share analysis for manufacturing employment	
	in Coventry, 1974–1982	102
Table 5.3	Total net job losses, Coventry, 1974–1982	107
Table 5.4	Shift-share analysis of total employment	
	in Coventry 1971–1981 and 1981–1989	111
Table 7.1	Male LMAs for Coventry, 1981–1991	146
Table 7.2	Female LMAs for Coventry, 1981–1991	147
Table 7.3	Student enrolments by year and HE institution,	
	2014–2018	152
Table 7.4	Ethnic group of Coventry residents in 1991 and 2011	153
Table 7.5	Ethnic group of Coventry residents, 2011	153
Table 7.6	Commuting out-flows Coventry local authority area,	
	2001 and 2011	154

xiii

xiv List of Tables

Table 7.7	Commuting in-flows to Coventry from surrounding				
	districts, 2011	155			
Table 8.1	Industrial groups of employees in Coventry	170			
Table 8.2	Birthplace Coventry residents	171			
Table 8.3	Annual report 1968: Rootes Motors ltd	175			
Table 8.4	Ownership of Coventry's top 50 firms by location				
	of head office	176			
Table 8.5	Occupations as percentage of all in employment	181			
Table 8.6	Coventry city population since the Millennium	184			
Table 8.7	Ethnicity and Coventry in the new Millennium	185			
Table 8.8	Origin of migration flows in and out of Coventry,				
	2007/8–2016/17	186			
Table 8.9	Standard Occupational Classifications (2010)				
	for the Coventry area, 2000–2018	187			
Table 8.10	Index of persons aged 16-64 recorded as having				
	a NVQ 4 award, 2004–2017	190			
Table 9.1	Number of jobs in Coventry 1978–2017	204			
Table 9.2	The 10 largest employers in Coventry by number				
	of jobs in the Coventry area	216			
Table 9.3	Number and average size of workplaces in Coventry	217			
Table 9.4	Employment land related development in Coventry				
	since 1980	219			



1

Introduction

Jason Begley, Tom Donnelly, David Jarvis and Paul Sissons

Coventry is city with an important economic history. This may sound surprising, that a medium sized city in the Midlands of England has such a rich and varied past, socially and economically. Yet it remains true that throughout the city's existence it has been at the centre of, or subjected to, a slew of economic events that have served to repeatedly and fundamentally alter its character and structure. The city's fortunes have fallen and risen so frequently in the last hundred years or so that the symbol of the city, a phoenix, has become indelibly linked with its identity. While Coventry's residents take pride in this symbol

J. Begley (\boxtimes) · T. Donnelly · D. Jarvis · P. Sissons

Coventry University, Coventry, UK e-mail: Jason.Begley@coventry.ac.uk

T. Donnelly

e-mail: aa5962@coventry.ac.uk

D. Jarvis

e-mail: ecy037@coventry.ac.uk

P. Sissons

e-mail: Paul.Sissons@coventry.ac.uk

of recovery, it's sometimes easy to forget that before rebirth must come fire. The symbolism can also be misleading, since what has emerged from the ashes of Coventry's economic past bears little resemblance to what came before. For example, as will be discussed in the pages that follow, industrialisation at the turn of the twentieth century has given away to a service-based local economy, heavily embedded in regional, national and global networks of economic and commercial activity. This shift was punctuated by two world wars, during which Coventry acted as a major centre of munitions production and, latterly, aero and vehicular production. For its efforts the city suffered in both post-war periods, from depression after the first conflict, to significant structural damage after World War Two. Rebuilding after the war wrought enormous changes to the physical landscape of the city, as it transformed from a medieval city in shape to a modern urban centre, with new spaces created for retail, industry and a road network for an emerging mass transport revolution, the passenger car.

Arguably, however, it would be another international force that would bring even greater changes and impact the city, namely globalisation. During the nineteenth century an enormous decline in transport costs across sea lanes allied to declining tariffs and the opening-up of the Americas and the Indian subcontinent encouraged British and European exporters to pursue greater trade and increase opportunities for the exchange of goods and services. Innovations in transportation technologies and improved efficiency of institutional structures further drove this process (Williamson 2008). However, it was by the beginning of the next century where globally integrated commodity and factor markets were truly in evidence, and as O'Rourke and Williamson note, by 1914 there was no area of the globe influenced or untouched by foreign markets, by foreign capital or traded expert skills (1999). Those who lost out, such as farmers who saw a sharp fall in food prices and domestic firms suffering from international competition voiced their opposition and set the stage for what would become the defining economic concern of the last century, but also, arguably, the most potent economic force for positive change and development. Two world wars and an intervening period of protectionism saw the rollback of many of the gains made by closer, integrated markets, but the post

second-world war years saw a return to globalisation with a new vigour, along with successive waves of growth and decline.

For the city of Coventry, the opening up of post-war markets provided some of the richest and most successful years of its history, with specialised workers receiving significant rewards as the demand for their products took off. What followed though was a city which would become better known for its decline in the face of rival producers than for the quality of its work. Starting from the 1960s onwards the main industrial sector, the automotive industry in Coventry, would be subject to increasing competition from international rivals, as well as waves of Foreign Direct Investment that would begin to absorb or outperform domestic firms. In a comparatively short span of time Coventry's most important economic activity would be reduced to a negligible presence. To fill the vacuum created by deindustrialisation the city authorities sought, with the support of national government, to encourage replacement activities. The result of these efforts saw an increase in tertiary activities in the local economy. These were not support services to industrial actors, rather they were often low skill and low wage employment opportunities meeting the needs of the population, such as retail and cleaning.

As the economic base of the city changed so too did occupations, as industrial workers gave way, increasingly, to professional jobs but also elementary activities and a more polarised labour market. Arguably what has emerged in the decades since the collapse of the motor industry and driven by globalising processes are two visible tiers of growth in the city's workforce; skilled, mobile professionals locating often within travel-to-work corridors at the city's edge, and less qualified workers based around the commercial centre of the city and performing a range of jobs in comparatively low-paid occupations. In an attempt to reverse this trend city officials and national policymakers have attempted to follow a triple helix model of innovation, promoting educational opportunities within Coventry's two main higher education institutions (Coventry University and the University of Warwick) and intersecting these efforts with the development of Science Parks and Enterprise Parks. Encouraging close relations between industry, academia and government has brought considerable success to Coventry, but has not been

4 J. Begley et al.

without challenges, not least related to the mobility of new graduates. In an era when globalisation encourages the movement of capital and labour, it has proven difficult to anchor this talent pool in the city, with low rates of graduate retention. Whereas is the past Coventry attracted migration through the offer of high pay and the potential of upskilling on site, there is now considerably more churn associated with attending education in the city (but often not remaining afterwards).

This is the story of how globalisation has changed and continues to change the nature of Coventry city in terms of social and economic character. This is partly a product of Coventry's economic history and partly a product of new systems of economic organisation associated with globalisation mirrored in other medium-sized cities throughout the world. In the year when Coventry has successfully been awarded City of Culture for 2021, a tribute to its inventiveness and resilience, it is particularly timely to reflect and asses the social and economic changes wrought by globalising forces that help explain how Coventry has become the city it now is, how these winds of change have revitalised it, but with certain costs accrued. To do so, this book is arranged in two parts; Part one offers a chronological overview of the economic history of Coventry from the late nineteenth century up until the period of decline and deindustrialisation associated with the collapse of the motor industry in the city. The second part of the book looks thematically at how the city has changed and altered since this traumatic event, buffeted by globalising forces, but also shaped by local and national intervention, as well as the actions of key actors in emerging sectors of the local economy.

The origins of these changes can be found in the watch-making and ribbon manufacturing enterprises that brought the first waves of industrialisation to Coventry at the end of the nineteenth century. In Chapter 2, Donnelly explores these businesses, showing how these sectors provided the basis for volume manufacturing of first bikes and then machine tools, but more significantly later, auto manufacturing. What Donnelly also captures so well is the impact of rapid growth on the city, as inflows of migrant labour, attracted by new employment opportunities, brought pressure to bear on services and infrastructure. Growing pains would be a recurring theme for the city, whenever it underwent

rapid expansion. Ribbon and watch-making were ultimately out-competed by cheaper but effective foreign producers with better production methods and access to plentiful, inexpensive labour, not the last example in Coventry's history of the city's main economic base being unable to maintain parity with its rivals for a host of reasons related to size, structure and location. As each wave of international competition came forth, Coventry's industries were forced to respond, either by cutting costs or diversifying.

Arguably international competition created a dynamic, entrepreneurial environment, a positive churn in the economic base of the city. Although of course there were significant difficulties for those employers and labourers impacted by these events, and this is well documented here. For those that diversified into automotive manufacture, the interwar period proved a golden era and Coventry could be seen to prosper. Important to this success was the protected nature of the market, a consequence of government intervention during WWI. The role of policymaking in the fortunes of the City's key industries is the central theme of Busch's chapter, exploring as he does the growing interconnectedness of business and government during the years of war and those in between.

Busch focuses in particular on the operation of the Shadow Factory Scheme(s) from the mid-1930s onwards. Echoing Donnelly, he shows how rapid growth impacted on the city's residents, seen through the increasingly irate eyes of the local authorities. The picture that emerges is of an urgent, at times chaotic, atmosphere of development, heightened in its intensity by the threats posed by the international geopolitical situation. The sense of purpose shown by those involved is tempered by the realisation that many of the post-war problems encountered by Coventry city can be located in these actions. In particular, planning was not optimal, particularly post-conflict planning. Furthermore over-specialisation into a narrow range of economic activities had been encouraged by intervention, leaving the city vulnerable to shocks to core sectors, most notably automotive. Busch also stresses that the suspension of normal activities may have also created a sense of complacency amongst the city's industrialists, meaning that by 1945 Coventry was not as well placed to take advantage of new and growing markets

as has sometimes been understood. In fact, a protracted period of protection with limited opportunity to invest in research and design mean that once domestic and international demand for vehicles had been sated, Coventry's automotive sector was not well-prepared to compete on the world stage.

The post-war boom was ultimately built on weak foundations. Subsequent interpretations of these halcyon years are difficult to disaggregate from the malaise and deep depression that followed. Here Haynes assesses the years before the downturn with a balanced view on growth and success measured against the social impacts of economic development on the residents of the city. By exploring the changes to culture he demonstrates how the opening up of the local economy brought new vistas to the life of its people. By the 1970s, however, the economic engine of Coventry was beginning to struggle, with waves of Foreign Direct Investment bringing more and more competition for local manufacturers. The opening-up of markets after the war also brought renewed competition. Collis details the decline of Coventry's major firms, using shift-share analysis to place this decline in a broader context. The impact of globalising forces in Coventry is best exemplified by the motor industry, the change in its structure and organisation being brought about by inflows of not just capital but new ideas and means of production. With the support of new regional agencies, such as the West Midlands Regional development Agency, Coventry began to change, economically, but also in terms of labour skills, mobility of labour and its organisation.

It is this latter process, the reorganisation of the workplace and, in particular, the shifting emphasis to a services within the economy, which preoccupies the thematic debates in the latter part of the book. The first of these chapters focuses on the sectoral and structural changes Coventry underwent during these years. Mackie, complementing the work of Collis, offers a different insight to the processes of sectoral change, viewing through the prism of local authorities' attempts to grapple with the unfolding challenges facing policymakers at a time when key industries were collapsing and unemployment was rising steeply in the city. Insights into the planning of a new Coventry, emphasising emerging advanced manufacturing opportunities and anchoring these concerns

into an economy that was increasingly embedded in international networks of corporate actors are valuable; so too are the discussions around the new understandings reached between education, government and industry, the development of the knowledge economy in the city that has come to dominate its core activities.

Begley also returns to the theme of the new knowledge economy in his complementary analysis of occupational change and structure after the war. Sectoral change in Coventry was accompanied by new work modes and new skillsets being required by the labour force. Tracked over approximately a sixty year period, what emerges is a picture of population growth driven by young migrant graduates and labour attracted to managerial and professional opportunities in the city. In parallel has been the increase in elementary occupations with more low-paid service sector work. This has manifested in a concentration of workers in high skilled and low skilled jobs in the city, with fewer employment opportunities between these two tiers.

The mobility of the Coventry workforce is also a theme explored by Sissons, who focuses on migrant labour as well as the movement of those seeking an education in the city. Looking at travel to work patterns, he shows how the more highly qualified component of Coventry's workforce is located significantly outside the city, not fully embedded within its environs but rather commuting there daily for work, before returning to residences in a belt around the city. The potential for a silo effect is high, a point considered by Kershaw in his work looking at the built environment of Coventry since the war, as he considers the lived experiences of the City's residents, and how these have changed over time since the Second World War. Driven by globalising forces and mobile labour Coventry has enjoyed waves of inward migration, domestic and foreign, that have located in communities around the city, changing both its character and structure. The Coventry of the boom era is no longer a recognisable identity, with the city much changed due to open markets and mobile investment.

The final theme examined in this book is where Coventry's future lies. Has the move toward a local economy more embedded in regional, national and international networks of economic activity, driven by globalising forces, proven to be a positive shift for the city? Here Morris

focuses on clusters of activity and smart specialisation as hallmarks of modernising economies. In particular he places Coventry's recent development in the global, a combination of linear local development in parallel to global and exponential growth. This is best exemplified by the development of the education sector in the city. Universities are becoming major social, economic and political forces in city centres and this is equally true for Coventry. These institutions act as anchors for local growth and development even as they become more international in scope and reach. By assessing the impact of both Coventry University and the University of Warwick on the local Coventry economy a true appreciation for the impact of the triple helix arrangement of business, government and education is reached. Morris then asks and answers the intriguing question of whether the motor industry is set to make a return to prominence in the fortunes of the city once more.

What comes through strongly across all the chapters is the transformation of Coventry wrought by globalising forces. This can be traced back to the beginnings of Coventry's industrial origins when foreign competition forced firms to diversify to survive. However, it was during the latter half of the twentieth century that the growing impact of mobile capital and labour began to really manifest, shaping Coventry's structures physically, economically and socially. As will be shown in the following pages, the concept of rebirth is perhaps less appropriate than that of renewal, a city growing and developing in different ways to take advantage of new circumstances of organisation. Ultimately then what must be assessed is whether Coventry, in a globalising world, has been revitalised by waves of capital, labour and goods flowing into the city, or has it instead been weakened by these forces? Has the process of globalisation created a more diverse, resilient local economy less impacted by fluctuations in the market, or has it in fact made the city more vulnerable to future shocks? Will Coventry, once more, have to endure the deep trough of a downward cycle of development before recovering in an oscillating cycle of growth and decay?

References

- O'Rourke, K. H., & Williamson, J. G. (1999). *Globalization and History: The Evolution of a Nineteenth-century Atlantic Economy*. MIT Press.
- Williamson, J. G. (2008). Globalization and the Great Divergence: Terms of Trade Booms, Volatility and the Poor Periphery, 1782–1913. *European Review of Economic History, 12*(3), 355–391.



2

Coventry: A Growing City

Tom Donnelly

Coventry's growth dates from the Roman occupation of these islands. Allegedly the Roman outpost was followed by the establishment of a convent of nuns, though the exact origins of the city remain obscure. In medieval times the city was bound up with the cloth industry and not only sold kerseys and the like in London, but exported to nearby Europe through ports such as Boston. By the eighteenth-century, however, Coventry was gaining a reputation for fine quality watches and ribbon making, which were to dominate the city's economy for most of the following century. In time these also fell into decline and Coventry progressed to the cycle trade, then motor cycles and eventually motor cars and, to a much lesser degree, aeronautics after 1914. The city became the main centre of car building in Britain. This, however, was not a linear progression as many firms made variants of all at roughly the same time.

Along with the changing structure of industry, Coventry's population seems to have grown and declined according to the census. Population

Coventry University, Coventry, UK e-mail: aa5962@coventry.ac.uk

T. Donnelly (\boxtimes)

levels doubled to 49,730 by 1851. Thereafter, it fell mainly due to the decline of the older industries with many of the city's inhabitants seeking work elsewhere. Throughout the ensuing decade, Coventrians in the 1860s chose to leave and seek work in London or Lancashire where trade was brisker (Lancaster 1985). By 1871 the population was no more than 30,474, rose to 45,116 in the following decade and then to 53,004 in 1891 before peaking at 118,004 in 1911 (Census Reports).

Such an increase in demographics put pressure on schools and housing. Much of this was due to inwards migration which was an important factor between 1901 and 1911. A great deal of this originated outside Warwickshire, coming from Worcestershire, Northamptonshire, London and beyond. This was primarily a young population which had an impact on marriage and birth rates which were above UK average levels. The middle years of the nineties saw the level of immigration coincide with peak years of rising demand for cycles and so create a housing crisis. According to the local officer of Health, houses were not being built fast enough to satisfy demand, but by 1906 supply had risen to 800 per annum and even this was insufficient. Similar difficulties affected education as schools struggled to cope with the growth in child population. The Coventry School Board which had been slow in responding to the problems of over-crowding, was replaced by the Local Education Authority in 1903. It found that even as late as 1908, 28% of children suffered from the effects of over-crowded premises. Incomes were high in Coventry compared to other parts of the economy, but were seasonal in nature with firms being subject to trade fluctuations in the cycle and motor industries. Nevertheless, in 1910 local children were well nourished and clothed adequately, which is symbolic of rising living standards (Thoms and Donnelly 2000).

By the outbreak of War in 1914, Coventry with its back courts and narrow medieval street pattern, was tied into the world economy. It had prospered due to the emergence of the textile industries, fell away due to its own failings, the quicker evolvement of the French ribbon industry and the Cobden Treaty. The watch trade failed partly because of the rise of the American and Swiss overseas trade in watches and partly due to its own conservatism. The economy revived with a successful growth

of the cycle, motor cycle and motor industries so that by the outbreak of World War One the city was well integrated into the global economy.

Ribbon Weaving

Ribbon weaving was introduced to Coventry, Atherstone, Nuneaton and surrounding areas at some point in the eighteenth century or even earlier by Huguenot refugees, escaping persecution and gradually spread out to nearby country towns such as Atherstone and Nuneaton, though earlier evidence suggests otherwise (Noon 2013; Hemsley 2013). About 1770 the weaving of silk became a fast growing industry but its heyday was short lived, lasting from 1813 until the end of the Napoleonic wars two years later. For most of the century the industry experienced decline as the following Table 2.1 illustrates.

Searby is surely correct in the view that between 1815 and 1860 the industry suffered severe competition from other parts of England such as Derby where steam looms were introduced. Coventry was a place of small concerns and independent craftsmen whose main aim was to resist modern modes of production. They harboured the opinion that they had done reasonably well for a considerable time and, for as long as the industry was protected against the import of French products they had nothing to fear. Whenever there was any threat of lifting the prohibition on French ribbons there was an outcry from Coventry. This was surely a protest to delay invention or retard improvement (Stephen 1969).

Table 2.1 Silk workers in Coventry 1821–1901

	1821	1841	1851	1861	1871	1991	1901
Males	4973*	3232	4170	3988	1904	896	506
Females		3106	6472	6955	3706	2512	1671

^{*}This figure refers to 1818 and is drawn from an unofficial census compiled by the ribbon weavers. It includes both males and females (Searby 1976).

14 T. Donnelly

Coventry was even against the introduction of the Dutch engine loom or later the Jacqard loom on which several ribbons could be woven at the same time. Switching to the latter would have increased production, lowered costs and paved the way for the factory system. The conflict between those who favoured the factory system and the outworkers lasted decades. There was nothing that could be done to prevent the enactment of the Cobden-Chevalier Treaty of 1860 which abolished the 15% tariff on ribbons and silk which revealed that the Coventry product was far behind the French in design and methods of production. It was then that decline set in as imports grew, leaving thousands of weavers unemployed. There was brief revival during the Franco-Prussian war but it was too late to have more than a marginal effect. Many weavers directed their offspring after 1870 to trades where their prospects were better served (Stephen 1969; Thoms and Donnelly 2000). The industry however did not die entirely. Thomas Stevens, inventor of the 'Stevengraph', a pictorial bookmark, demonstrated it successfully at the Crystal Palace exhibition of 1868, in Europe and New York, extending the life of the industry. Cash's, which had been formed in 1857 almost as an experiment, survived by turning to a conventional factory system. Coventry's remaining weavers found salvation in chenille, most of which was sent to London, but as has been shown the number of workers was considerably smaller than it had been in 1860. By 1935 the number of manufacturers had dwindled to thirteen, the most renowned of which was J. & J. Cash (Stephen 1969).

Watchmaking

As ribbon weaving fell away, it was replaced by watchmaking as the city's premier industry. Watchmaking in the area dates from the seventeenth century when a local trade began to appear. John Patson and Joseph Huet, for example, were responsible for the running of the clocks in the market and the grammar school respectively. In the 1680s new clocks were installed at the New Gate and at the school. In 1706 the Council or Leet declared that no payments should made for the upkeep of the clocks until the middle of the century when it changed

tack. At that juncture watch making was beginning to emerge as one of the city's trades. Samuel Vale and others founded Rotherhams which specialised in setting up the trade with John Bottrill and certain others (Stephen 1969).

In 1830 the city boasted some fifty-three watchmakers at least. Of these twenty remained among the 142 named individuals or possibly employers twenty years later. The years of expansion were clearly those between 1830 and 1850. Watch making and ribbon weaving did not vie for labour. The former demanded a higher level of skill than the latter and, because of higher wages and better prospects, weavers were apprenticing their sons to watchmakers. However, it should be remembered that in excess of two thousand were employed in the watch trade (ibid.). Throughout the period from the eighteenth to the nineteenth century, work was minutely subdivided with each member of the trade being responsible for only one part of the operation. The many parts of the watch were installed by specialist fitters considered to be expert finishers. All parts were made by using hand tools which were often not interchangeable. Journeymen often worked from home or in the shops of small masters who employed no expensive equipment. As can be imagined, there was a great deal of coming and going between the various houses and shops and so it is little wonder that they were situated in close proximity to each other. Initially watch making began around Spon St before spreading to Spon End and then to Chapelfields as the trade expanded but after the mid-fifties a decline set in. Several attempts were made to try and improve the situation by raising standards of craftsmanship and operating a fixed price list. These were in 1843, 1848 and 1859. In the latter year over six hundred watchmakers joined the movement but within even six months the engravers, dial-makers and case makers withdrew their support, arguing that their interests would be better served elsewhere, but doing nothing to fill the void. The employers argued in turn that there was nothing they could do to bring prices down to compete with imports led especially from Switzerland. A hammer blow was the government decision to opt for an economic policy of Free Trade under the previously mentioned Cobden-Chevalier Treaty of 1860 by which goods of foreign origin could enter the UK free of quotas or tariffs. Between March and August of 1859 and similarly