INTRODUCTION

Signs of revolutionary change can appear in the most ordinary of places.

On 14 April 1978, in the rolling hills of Westmoreland County, Pennsylvania, not far from Pittsburgh, the first Volkswagen Rabbit emerged from the German carmaker's massive new assembly line. Plain-vanilla white and designed to meet the specific environmental and safety requirements of the US market, the car was presented to a crowd of about 1,000 dignitaries and workers, including Milton Shapp, the Governor of Pennsylvania. He was joined on the rostrum by Toni Schmücker, the CEO of Volkswagen AG, who had flown in from the firm's headquarters in Wolfsburg, Germany. The factory's first Rabbit came to rest on a gold carpet where an employee snapped on its final part, a plastic grill. It was promptly dispatched to the VW Museum back in Germany. Schmücker announced proudly that 'Today, Volkswagen becomes the fifth American automobile producer.'[1]

Just over four years later, in November 1982, the first North American-made Honda, a modest looking slate-grey Accord, made its appearance in the Japanese automaker's sprawling new factory built in the cornfields bordering rural Marysville, Ohio, a short distance from the state's capital, Columbus. The ceremony that marked the first Japanese car ever produced in the United States was a muted affair. Participation was restricted largely to a few visiting company dignitaries and the factory's own local managers and workforce. But, in

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keeping with midwestern American tradition, a high school marching band provided musical accompaniment. And, in marked contrast to the first Rabbit, which was sent back to VW headquarters in Germany, Marysville's initial Accord remained in the United States and was later donated to the Henry Ford Museum in Detroit.[2]

The two plants represented, respectively, the first and second overseas auto manufacturing facilities located in the United States since 1931, when Rolls-Royce shuttered its Springfield, Massachusetts, factory. And they spearheaded a decades-long invasion of the US by foreign – primarily German and Japanese – automobile producers in the context of the oil crises of the 1970s, the emerging globalisation of trade and technology, and constant competition for foreign investment among the US states.

However, the two most striking aspects of the initial transplants were where they came from and what that meant. After all, just over a generation before VW and Honda began producing cars in the United States, Germany and Japan lay defeated and prostrate, their populations decimated and their economies in tatters in the wake of the world war they had started recklessly and lost absolutely.

Volkswagen's fate in 1945 was uncertain, its eventually iconic Beetle one of the symbols of the limitless ambitions of the Third Reich for its own 'Aryan' people over all others. The firm's automobile output before and during the war had been negligible, but its factory buildings and equipment were practically brand new. VW therefore formed a likely potential target for punitive Allied occupation policies. Honda, on the other hand, had yet to produce even one automobile in 1945: it did so only in 1963, nearly two decades after the end of the Second World War. During the conflict, Honda's founder had failed as a piston-ring manufacturer; just after the war ended, he got busy designing a prototype of a modest motor bike for eventual production.

The inauspicious beginnings after 1945 were not restricted to the auto industry in the two defeated nations. Indeed, for the rest of the 1940s, there were few industrial sectors where recovery seemed imminent, and this could happen only once the countries' desperate straits in infrastructure, housing, and supply of basic necessities were addressed. Nevertheless, already by 1960, the Federal Republic of (West) Germany, formed in 1949, boasted the second-largest economy in the capitalist world, while Japan ranked fifth. Both, moreover, had completed the journey from pariah to loyal ally of the world's political, economic, and technological leader: the United States. This was a relationship that remained fundamental in the decades that followed as the two countries retained – and in Japan's case substantially improved – their positions among the world's dominant economies into the twenty-first century. Indeed, in 2020, Japan and Germany ranked third and fourth, respectively, among the top economies in the world in terms of total gross domestic product (GDP), behind the United States and China, and ahead of India and the United Kingdom.[3] Their per capita GDP was even more impressive compared with most of these other large economies.

What accounts for these massive, rapid, and sustained transformations, and why, among all nations, were the Germans and the Japanese particularly adept in bringing them about? *Ruins to Riches* answers these questions: first, by focusing on major actors from the public and private sectors who were responsible for realising the West German and Japanese 'economic miracles'[4] during the 1950s and propelling them forward in the decades that followed; and second, by placing these internal developments in international political and economic context. In doing so, the book highlights a potent mixture of subtle state action, effective industrial organisation, benign labour relations, key companies, and fundamental technologies, all of which took flight in tandem with growing post-war international trade and globalisation. Together, they stood at the heart of the spectacular resurgence of Deutschland AG and Japan Incorporated to global economic leadership in the post-war period.

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Germany and Japan are located nearly half the world away from one another, with vastly different languages and histories. Germany is largely landlocked, with no real natural borders. This accounted in large part for wild fluctuations in its political boundaries from the first German unification in 1871 through to 1990. The lack of natural borders was especially pronounced in flat, mostly sandy Prussia, the German state that brought about that first unification. It also goes a long way towards explaining both the ascendancy of the military in the decades that followed and the closely related constant threat of war as latecomer Germany sought to find its 'place in the sun' by seeking out overseas colonies.

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Japan, on the other hand, is an island nation, which attempted to isolate itself from any outside influences for over two-and-a-half centuries from the early seventeenth century. Its era of splendid isolation ended abruptly in the 1850s, when Japan succumbed to the might of western countries, which threatened invasion. The Japanese avoided the implementation of the threat by signing the humiliating 'unequal treaties', obviously under duress. Thereafter, the focus was on undoing the treaties by enacting the slogan of Japan's new ruling elites: 'Rich Nation, Strong Army'. The new rulers had come to power in a revolution masquerading as the Meiji 'Restoration', which transformed politics, the economy, business, and technology in the island nation. The political boundaries of the Japanese home islands, however, did not change very substantially, either during this period of upheaval or afterwards.

Despite clear differences between Germany and Japan, then, military elites in both exercised an unhealthy influence over the countries' politics, both domestic and foreign. Both countries suffered from severe social tensions associated with rapid industrialisation. And what is more, for these and other reasons, the leaders of both countries were more than willing to go to war in order to achieve their ambitions.

In 1914, under the disastrously mistaken illusion that Germany would win swiftly, the Reich led its allied Central Powers to war, which resulted in defeat by 1918. Adolf Hitler's Third Reich attempted to reprise the folly in 1939, with even more disastrous results. Most see these as two entirely separate conflicts. Winston Churchill and others, however, have characterised the two world wars taken together as the Second Thirty Years' War, although this is, of course, a Eurocentric conception. To them, like the first Thirty Years' War, which lasted from 1618 to 1648, the two world wars constituted a single struggle punctuated by periods of peace and with changing alliances, which resulted in the devastation of central Europe and the emergence of two strong flanking powers. France and Russia emerged triumphant in 1648, the United States and the Soviet Union in 1945.

The Japanese Empire, for its part, went to war with China in 1937, and with most of its other near neighbours (mostly colonies of western powers) in the years that followed, culminating in a brazen attack on the US fleet anchored in Pearl Harbor on 7 December 1941. Not surprisingly, the United States declared war on Japan in retaliation. The attack on Pearl Harbor thus represented a *va banque* strategy in a conflict that the bigger, richer, and better equipped country was bound to win. This applied, too, to Germany, which declared war on the United States shortly after Pearl Harbor, making this a truly global conflict.

Germany and Japan, then, caused the Second World War and were defeated in it. Their economies have also both performed spectacularly in its aftermath. But they have much more than that in common. In terms of economic development, for example, both were early-late industrialisers (Japan later than Germany). This meant that they were able to learn from earlier industrialisers – most importantly Britain, but also the Low Countries, parts of France, and, for Japan, Germany and the United States. Being a follower, however, also entailed the need to play catch-up, especially with regard to technology, finance, and industrial organisation.

Limited access to natural resources beyond abundant water supplies was another characteristic common to both Germany and Japan. Certainly, the German area also featured high-quality coal, especially in the Ruhr District. But neither the Germans nor the Japanese possessed adequate quantities of iron ore, cotton, or many of the other basic commodities essential to the first industrial revolution. And, as the age of petroleum dawned in the early twentieth century, with implications for defence technologies and mass motorisation, it soon became obvious that the two countries had virtually no domestic reserves of oil. This was confirmed definitively and much to their chagrin in the course of intensive – and very expensive – exploration for petroleum in the 1930s.

Of course, Germany and Japan were not alone among early – or even early-late – industrialisers in being short of some key natural resources domestically. In fact, only the United States boasted magnificent arrays and vast quantities of most commodities crucial for industrial production. The British, French, Belgians, and Dutch, however, could expand their 'domestic' raw materials base starting already in the seventeenth century through imperial conquest. By the late nineteenth century, each of them held a large clutch of lucrative colonies, which served both as suppliers of crucial raw materials and as markets for goods manufactured in the metropole. Germany and Japan, however, by industrialising late, also arrived late to this increasingly frenzied carving up of most of the world outside Europe and North America. As a result, they were able to gain only limited colonial holdings (although some, such as Germany's takeover of Shantung Province in China in the late nineteenth century and Japan's incorporation of Taiwan, the Korean peninsula, and eventually Manchuria into its empire in the first decades of the twentieth century, proved important economically). What is more, this latter-day imperial expansion occurred at the price of the Germans and Japanese coming into conflict with the established imperial powers, although neither country shrank back much from that.

However, neither Germany nor Japan relied exclusively on imperial expansion to overcome hindrances associated with their limited domestic supplies of raw materials. Keen cultivation of foreign trade was one fruitful way forward, and both Germany and Japan engaged increasingly in that during the 'first globalisation' from the late nineteenth century until the outbreak of the First World War. Thereafter, however, significant impediments to foreign trade arose because of economic disruption and deglobalisation, culminating in a severe rise in protectionism around the world from the late 1920s. Regardless, though, right from the outset, heavy reliance on foreign trade by Germany and Japan stood in marked contradiction to their willingness to engage in acts of brinksmanship and bellicosity.

Ingenuity was the second major alternative to imperial expansion for overcoming heavy reliance on other countries for supplies of natural resources and, indeed, for the reliance on foreigners for the intangible, knowledge-based inputs required for industrial production. Germany performed particularly well in this domain through its development, starting in the 1860s, of a world-beating organic chemicals industry, which produced substitutes for imported dyestuffs and eventually fertilisers and other materials. Moreover, and at least as importantly, the new industry manufactured entirely new products for which there was apparently insatiable demand, including striking new colours for dyestuffs never before seen in the natural world as well as wonder drugs, such as aspirin. More broadly, however, Germany pioneered the *institutionalisation* of ingenuity as the first country to harness the interaction of government, universities, and industry in what is now known as the 'triple helix' of a national system of innovation. Japan lagged behind Germany in the first half of the twentieth century in establishing its own national system of innovation. But development in this direction was nevertheless swift. What is more, the Japanese proved highly effective in their ability to develop domestic capabilities in sectors as diverse as steelmaking, shipbuilding, and electrical generation and distribution.[5]

Following the defeat of the Axis powers in 1945, Germany and Japan shared the experience of military occupation, with especially important input from the United States and its representatives. One of the most significant impacts here was a fundamental reorientation of the political economy of each of the defeated powers, which was undertaken under the tutelage and watchful eye of the US Americans. By the 1950s, at the insistence of the occupiers, and with the generally willing collaboration of key opinion formers and policymakers among the occupied, Japan and the newly created West Germany had transformed themselves, profoundly and permanently, from national-security states to trading nations. Gone was the overriding impact and influence of the military, with the concomitant heavy emphasis on cutting-edge technologies, along with generally high levels of social tension and confrontational industrial relations. What replaced them was a commitment to keeping the peace, low levels of social tension, and consensual industrial relations, all with a primary emphasis on commerce, civilian technologies, and (generally, and until recently) incremental innovation.

Since the Second World War, both Germany and Japan have achieved unparalleled success in four main areas: realisation of the potential of effective innovation systems that emphasise applications; manufacturing; fostering of human capital through highly effective education and training systems; and coordination of all of this through generally constructive (if sometimes problematic) cooperation among social groups from politics, industry, trade unions, education, and science and technology. Little wonder that Germany and Japan are the exemplars of what social scientists specialising in analysis of the 'varieties of capitalism' have called coordinated market economies (CMEs).[6]

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Not long after the late Thomas Parke Hughes published *Networks of Power*, his masterly 1983 study of the emergence of the electric-power industry in Germany, the United States, and Britain up to 1930,[7] I asked him informally about the challenges of doing comparative history. He replied that he found it extremely difficult, not least because 'things are often almost the same, but at the very same time so very different'. So it is here, not least because, in addition to being similar yet different, Germany and Japan share strong bilateral links with the United States, which serve as a conduit for mutual interaction. In many ways, therefore, Germany and Japan have a lot in common. But they are by no means identical. Indeed, what drives the narrative in the chapters that follow is the tension arising from the remarkable similarities, but also the striking differences, between these two countries as they navigated the second half of the twentieth century and passed into the twenty-first century. One task in what follows will be to tease out some of the 'finer varieties of advanced capitalism', at least as manifested in these two leading exemplars of CMEs.[8] The other is to demonstrate that the characteristics of capitalism were not static in either country, even after the so-called 'zero hour' that tolled at their defeat in 1945.

In other words, throughout the book – and here is where this account diverges strongly from those presented by proponents of varieties of capitalism – the emphasis will be on how the two countries have *become* what they are, on contingency rather than inevitable outcomes, and on continuities as well as change. After all, attaining economic and technological success and global influence in the post-war period was not foreordained for Germany and Japan. Nor has the road to such success and influence been smooth. And their economic performance has sometimes disappointed, most recently, for example, Japan's sustained low levels of GDP growth. Alongside this, the challenges of unabated globalisation have been particularly taxing for these countries, with their massive dependence on foreign trade and imported raw materials and, increasingly, energy, a dependence that pre-dated 1945 and continues to the present. Other problems, too, have their origins in the pre-1945 era, but, unlike the countries' natural resource endowments, were self-inflicted. The highly chequered pasts of prominent figures in Germany and Japan, for example, resulted in frequent scandals well into the 1970s, while the very same tight socio-political and economic networks that were at the centre of the countries' prewar economic and technological successes as well as their respective 'economic miracles' at times involved shadowy and illicit practices. Environmental challenges that came to the fore during the extremely rapid growth in both countries in the post-war period, too, often had origins that pre-dated 1945.

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Boiled down to its essence, this book starts from what seems to me an uncontroversial observation: in spite of impressive economic and technological successes through the first four decades of the twentieth century, it became abundantly clear by 1945 that the German and Japanese brands of capitalism had not worked out very well at all. Both countries had indeed industrialised more or less effectively. But they remained relatively poor compared with Britain and the United States. They also suffered from extreme social tensions. These factors were both cause and effect of the countries entangling themselves in a war that they could not win, and which made their social and economic situations horrendous, at least initially. Yet, in stark contrast, from the early 1950s onwards, German and Japanese forms of capitalism have played out surprisingly well, with increasing levels of wealth, which was distributed more equitably, and substantially eased social tensions, all of this without any bellicose behaviour. What is more, this remarkable performance has been sustained over an extraordinarily long period of time.

The primary question posed here, then, is this: *Why, in general, have things worked out so much better the second time around?* The chapters that follow seek to provide an answer to that simple question, and they are grouped in four parts, arranged for the most part chronologically. Part I explains the rapid recovery of the German and Japanese economies in the immediate aftermath of the Second World War in 1945 and the (re-)construction of political, social, and economic networks by the early 1950s that enabled that recovery. Part II explores the next stage in that process between about 1950 and 1973: how West Germany and Japan came to rank among the richest nations on earth by the early 1970s. Part III then turns to consideration of the period 1973 to 1989, when some of the consequences of becoming so rich so fast came home to roost, and Germany and Japan coped with political, economic, and environmental crises. And Part IV analyses how the two countries sustained their respective economic miracles as they navigated waves of globalisation and other international challenges from 1990 until 2022.

The subtitle of the book refers to the 'economic resurgence' of the two countries since 1945, something that resonates with the widespread reference to their 'economic miracles' in the post-war period. I have used this concept in this introduction, and, in many of the part and chapter titles that follow, there is frequent use of terms associated with miracles, magic, and the supernatural. This sits somewhat uncomfortably, of course, with the fact that the book is fundamentally dedicated to explanation and elucidation. But rest assured that there is no resort in the narrative that follows to explanations involving wizardry or the occult. The terms and imagery have in fact been chosen advisedly. There must, after all, be a sense of wonder at the spectacular accomplishments of these two countries in the global economy, business, and technology, achievements which are envied by many, and which some have tried to emulate. At the same time, there must and will also be due recognition of the many scandals and transgressions that have accompanied these successes, demonstrating some of the foibles of the societies that produced them.