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Productive or Extractive Periphery? Russian Poland and Timber Exports to Germany in the Late Nineteenth and Early Twentieth Centuries¹

Jawad Daheur

In a recent article commenting on the complexity of international trade flows in Poland in the early modern period and the difficulties in interpreting them, Dariusz Kołodziejczyk observes that historiography is marked by 'a somewhat schizophrenic attitude towards the place of Poland on the world map'.² In fact, the classical view of Immanuel Wallerstein, according to which the international division of labour between centres and peripheries that began in the sixteenth century made Poland the prototype of a periphery, has been questioned for several decades.³ Researchers raised the question of the historical tension between, on the one hand, the dynamics of natural resources extraction for international markets, interpreted as a sign of peripheralisation of the country, and on the other hand, the emergence of productive forces that allowed Poland to extend its influence and power, especially towards the east. Discussion on the topic initially focused on the modern period and then moved to the age of industrialisation. Particular attention was given to the regions under Russian domination after the late eighteenth-century Partitions, which saw a spectacular boom in manufacturing after 1860.⁴ Most of the existing studies, however, are still framed in an economic history perspective that takes little account of the insights provided by the concepts and findings of recent environmental history literature. By examining the case of timber trade and forest exploitation, this article aims to

¹ This paper has been translated from French by Roger Depledge.

² D. Kołodziejczyk, 'Twisted ways of commodities in the early modern era and the positioning of Poland on the map of colonialism', *European Review* 26 (3) (2018): 441–447.

³ J. Kochanowicz, 'Economic historiography in communist Poland', *Studia Historiae Oeconomicae* 22 (1997): 1–15; J. Topolski, *Narodziny kapitalizmu w Europie XIV–XVII wieku* (Poznań: Państwowe Wydawnictwo Naukowe, 2003); D. Adamczyk, *Zur Stellung Polens im modernen Weltsystem der frühen Neuzeit* (Hamburg: Kovač, 2001); J. Sowa, *Fantomowe ciało króla. Peryferyjne zmagania z nowoczesną formą* (Cracow: Universitas, 2011), pp. 431–494.

⁴ J. Kochanowicz, 'The Polish Kingdom. Periphery as a Leader', Lecture prepared for the *14th International Economic History Congress* in Helsinki, August 21–25, 2006.

demonstrate the benefits that historical economic research can draw from the environmental perspective to better understand the centre–periphery dynamics in past societies.

Congress Poland, officially the Kingdom of Poland, was defined in 1815 by the Congress of Vienna as a semi-independent state in personal union with the Tsar.⁵ Although it started with its own constitution, army and Sejm, its autonomy was cut back following armed uprisings initiated by the local nobility against Russian domination in 1830–1831 and 1863–1864. After the second (January) uprising, the Imperial government launched a process of political unification with the Russian Empire. The Kingdom's separate institutions were abolished and Russian became the language of administration.⁶ In 1874, the very name Poland officially disappeared and the region was now called 'Vistula Land'.⁷ And yet the Kingdom did retain a number of distinctive features. Its Prussian, Austrian and, not least, brief French traditions (Duchy of Warsaw, 1807–1813) left their mark in its civil and commercial code and in property rights differing from those in Russia.⁸ Nor did annexation by the Empire have much effect on the tax system, which kept its specific features until the early 20th century.⁹ Endeavours to destroy Polish life also included measures to undermine the economic bases of the nobility and the Catholic Church by confiscating property.¹⁰ The peasantry, meanwhile, benefited from the emancipation decree of 2 March 1864, which freed them on better conditions than in Russia.

Ironically, this period saw a major economic boom. For political reasons, the Russian government had decided in 1851 to reincorporate the Kingdom into the Empire's customs union, which it had left in 1832.¹¹ During the following years, extension of the rail network and emancipation of the peasants, encouraging movement into towns and the formation of a working class, created favourable conditions for the growth of industry that was mainly based on private initiative.¹² In 1866–1867, the Kingdom lost its budgetary independence. But its cost

⁵ L. Mażewski, 'Królestwo Polskie 1815–1874. Powstanie i upadek państwa', *Przegląd Sejmowy* 2 (2017): 51–73.

⁶ M. Rolf, *Imperiale Herrschaft im Weichselland: Das Königreich Polen im Russischen Imperium (1864–1915)* (Munich: Oldenbourg, 2015).

⁷ In practice, however, the name 'Kingdom of Poland' continued to be widely used, including in some Russian administrative texts. Indeed it continues to be used in historiography.

⁸ K.V. Seregin, 'Sravnitel'nyj analiz norm graždanskogo zakonodatel'stva carstva Pol'skogo s normami graždanskogo zakonodatel'stva Rossijskoj imperii v sfere zašity vešnyh prav', *Juridičeskie issledovanija* 3 (2019): 46–52.

⁹ E. Pravilova, *Finansy imperii: Den'gi i vlast' v politike Rossii na nacional'nyh okrainah, 1801–1917* (Moscow: Novoe Izd-vo, 2005), p. 177.

¹⁰ J. Kaczkowski, *Konfiskaty na ziemiach polskich pod zaborem rosyjskim po powstaniach roku 1831 i 1863* (Warsaw: Gebethner & Wolff, 1918).

¹¹ J. Łukasiewicz, 'Zmiany kierunków szlaków handlowych w Królestwie Polskim w drugiej połowie XIX wieku', *Przegląd Historyczny* 6 (4) (1973): 823–824.

¹² J. Łukasiewicz, *Przewrót techniczny w przemyśle Królestwa Polskiego w latach 1852–1886* (Warsaw: Państwowe Wydawnictwo Naukowe, 1963); I. Ichnatowicz, *Przemysł łódzki w latach 1860–1900* (Wrocław:

burden regularly worried the defenders of Russian national interests, who saw the provinces along the Vistula, falsely, as a financial sinkhole.¹³ The Russian government helped the Kingdom's industrial development only indirectly, with a protectionist policy introduced from 1877 and attempts to attract foreign investors.¹⁴ Protected from competition and receiving abundant capital, particularly from France and Germany, the Kingdom's industries set out to conquer the vast Russian market as it expanded into Asia.¹⁵ The sectors with higher productivity than their Russian competitors, particularly the textile industry, the production of railway stock and some metallurgical activities, gained from these developments.

Researchers have puzzled over the clearly paradoxical nature of this trading pattern from the point of view of the centre–periphery model.¹⁶ Located on the Western edge of the Russian Empire, the Kingdom of Poland after its loss of autonomy was a periphery under the tight political domination of Saint Petersburg, and yet it was industrialising more quickly and extensively than the Russian heartland. By the end of the nineteenth century, the Vistula land had 10% of the Empire's population but supplied 40% of its coal, 23% of its steel and 15% of its iron. Per capita industrial production was twice the Russian average.¹⁷ This industrial success and its effects in inverting the centre–periphery dynamic have, however, been interrogated and nuanced. The redirection of the economy towards the Russian market was problematic in the medium term, because it did not encourage innovation. Polish industry's central place in the Empire only emerged for a relatively short period, namely 1880–1895. After that, the Russian centre took over again as a result of a *dirigiste* policy that enabled the Saint Petersburg and Moscow regions to win back market share.¹⁸ Moreover, it seems that the technological advances only affected a small part of the economy, so that Russian Poland's economy remained dual. Using cheap labour and relatively simple technology, the industrial districts around Warsaw, Łódź and the Dąbrowa coalfield were islands that had to export most of their production

Zakład Narodowy im. Ossolińskich, 1965); I. Pietrzak-Pawłowska, 'Przezwrot przemysłowy i warunki kapitalistycznej industrializacji na ziemiach polskich do 1918 r.', in Id. (ed.), *Uprzemysłowienie ziem polskich w XIX i XX wieku. Studia i materiały* (Wrocław: Zakład Narodowy im. Ossolińskich, 1970).

¹³ In fact, tax receipts from the region largely exceeded expenditure from the public treasury, with an average surplus of 6 million roubles a year from 1868 to 1890. Cf. Prasilova, *Finansy imperii*, pp. 183–186.

¹⁴ R.W. Kowalczyk, 'Wpływ rosyjskiej polityki protekcyjnej na sytuację gospodarczą Królestwa Polskiego w latach 1877–1914', *Studia z Historii Społeczno-Gospodarczej XIX i XX wieku* 6 (2009): 153–172.

¹⁵ Łukasiewicz, *Przezwrot techniczny*; W. Puś, *Przemysł Królestwa Polskiego w latach 1870-1914. Problemy struktury i koncentracji* (Łódź: Uniwersytet Łódzki, 1984).

¹⁶ Kochanowicz, 'The Polish Kingdom'; H. Xu, 'Dependency and development: Partitioned Poland in the late 19th century', in *Klio* (ISHA Lubljana, 2014), p. 36.

¹⁷ I. Berend, *History Derailed: Central and Eastern Europe in the Long Nineteenth Century* (Berkeley: University of California Press, 2003), pp. 169–170.

¹⁸ *Ibid.*, pp. 37–38; P. Koryś and M. Tyimiński, 'Economic growth on the periphery: Estimates of GDP per capita of the Congress Kingdom of Poland (for years 1870–1912)', *European Review of Economic History* (2021): 1–18.

because the local peasantry had only limited contact with the market economy. The lands on the east bank of the Vistula and in the north-east of the Kingdom continued to live by farming, crafts and small-scale industries that were anything but dynamic.¹⁹

Historians have generally perceived the peripheral nature of the Kingdom of Poland in the latter half of the nineteenth century as the employment of an underpaid urban proletariat and the dependency of industry on foreign technology and capital, often available only temporarily and in specific areas.²⁰ This article draws attention to a whole different dimension, namely the pressure that foreign trade exerted on natural environments. It focuses on the case of forests, which has been an important topic in the study of the ecological dimension of centre–periphery dynamics,²¹ but was largely ignored by the research on Russian Poland so far. From about 1820 to about 1910, the Kingdom of Poland’s wooded area decreased by more than 1.44 million hectares to reach 2.37 million hectares and an afforestation rate of 19% against 29% a century earlier. Worse, it seems that the really productive surfaces, i.e. able to deliver wood to market, were even more reduced at the eve of the First World War, perhaps not more than 13.4% of the total area. Per capita in 1913 there were 0.13 hectare of forest, compared to 3.87 in Sweden, 1.4 in European Russia, 0.24 in France and 0.22 in Germany.²²

Interestingly, the Kingdom of Poland was not only the fastest industrialising part of the Russian Empire, but also the one that saw the forested area diminish the most rapidly. One might think that this decline in forest cover was a direct consequence of the increase in demand for wood triggered by the expansion of local factories, cities and infrastructures, as it occurred in many parts of industrialising Europe.²³ As we shall see, this was not exactly the case. In fact,

¹⁹ E. Kaczyńska, ‘Tak zwane przeżytki feudalne i kapitalizm marginalny w Królestwie Polskim w drugiej połowie XIX wieku’, in R. Czepulis-Rastenis et al. (eds), *Między feudalizmem a kapitalizmem. Studia z dziejów gospodarczych i społecznych. Prace ofiarowane Witoldowi Kuli* (Warsaw: Państwowe Wydawnictwo Naukowe, 1976), pp. 263–276.

²⁰ A. Sosnowska, ‘Abhängigkeit oder erfolgloses Einholen. Historiografische Debatten in der Volksrepublik Polen über die Rückständigkeit Osteuropas’, *Historie. Jahrbuch des Zentrums für Historische Forschung Berlin der Polnischen Akademie der Wissenschaften* 6 (2012/2013): 121–142. An approximate estimate is that one quarter of the Kingdom’s factories circa 1900 were operating on foreign capital, employing 69% of all workers, and accounting for 60% of industrial production. Cf. A. Jezierski, *Historia gospodarcza Polski: 1815–1980* (Warsaw: Wydawnictwo Uniwersytetu Warszawskiego, 1987), p. 65.

²¹ R. Tucker and J.F. Richards, *Global Deforestation and the Nineteenth-Century World Economy* (Durham: Duke University Press, 1983); M. Williams, ‘The role of deforestation in Earth and World-system integration’, in A. Hornborg, J.R. McNeill and J. Martínez Alier, *Rethinking Environmental History: World-system History and Global Environmental Change* (Lanham, MD: Altamira Press), pp. 101–122. On the case of Austrian-ruled Poland, see J. Daheur, ‘Exporting environmental burdens into the Central-European periphery: Christmas tree trade and unequal ecological exchange between Germany and Habsburg Galicia around 1900’, *Historyka. Studia Metodologiczne* 46 (2016): 147–167.

²² S. Janicki, S. Rosiński and F. Ubysz, *Stosunki rolnicze Królestwa kongresowego* (Warsaw: Ministerstwo rolnictwa i dóbr koronnych, 1918), p. 434.

²³ B.S. Grewe, ‘Das Ende der Nachhaltigkeit? Wald und Industrialisierung im 19. Jahrhundert’, *Archiv für Sozialgeschichte* 43 (2003): 61–79; I. Iriarte-Goñi and M.-I. Ayuda, ‘Wood and industrialization: Evidence and

the forest history of Russian Poland during that period can only be understood if the growing role of international markets is seriously taken into account. As shown by Alf Hornborg in the case of cotton and wool, industrial growth in industrialising countries such as Great Britain produced a saving in space, which could be dedicated to other uses, but this occurred by displacing the obtainment of raw materials towards less developed parts of the world, with the environmental burdens involved consequently also displaced.²⁴ Unlike cotton, however, the growing demand for wood in Western Europe was not served by the overseas colonies, but mainly by Northern and Eastern European woodlands.²⁵ By examining this issue through the perspective of one of the main supplying region in peripheral Europe, this article is intended to contribute to a connected history of European forests in the age of industrialisation.

Its purpose is threefold: 1) reopen in part the issue of the Kingdom of Poland's external trade relations so as to provide new evidence about trade with Germany and to highlight timber exports to the West, little covered by historians; 2) begin a dialogue between economic and environmental historians by introducing ecological aspects into the debate over the definition of a 'peripheral' territory so as to see how far they apply in the case of Poland. This implies renewing the method of investigation through a shift from monetary accounting to an accounting in metric tonnes. As we will see, timber exports to Germany, once seen from that perspective, appear as anything but innocuous; and 3) refine our understanding of the relationship between extraction and dependency by discussing the geographical and socio-ecological features of the phenomenon in Poland. The four parts of the article address the sources and their re-evaluation, the boom in German trade with the forested areas, the role of Russian policy in the process, and the social and environmental costs involved in this development.

PRODUCTION AND EXTRACTION: THE KINGDOM OF POLAND'S FOREIGN TRADE

For a long time, the relations formed between the Kingdom of Poland and the heartlands of the Empire after the introduction of protective customs tariffs in 1877 were inspired by Rosa Luxemburg's observation in her 1898 thesis concerning the 'capitalist merger between Russia

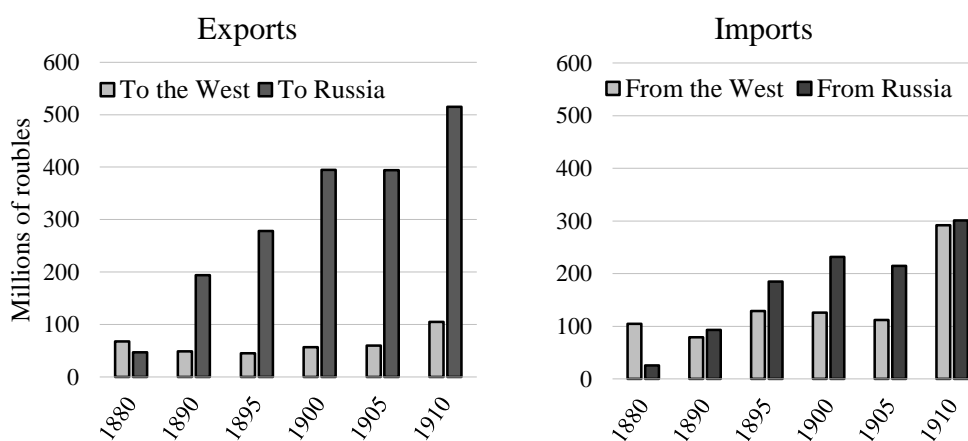
hypotheses from the case of Spain, 1860–1935', *Ecological Economics* **65** (2008): 177–186; Id., 'Not only subterranean forests: Wood consumption and economic development in Britain (1850–1938)', *Ecological Economics* **77** (2012): 176–184.

²⁴ A. Hornborg, 'Footprints in the cotton fields: The Industrial Revolution as time–space appropriation and environmental load displacement', *Ecological Economics* **59** (2005): 74–81.

²⁵ C. Lotz, 'Expanding the space for future resource management: Explorations of the timber frontier in Northern Europe and the rescaling of sustainability during the nineteenth century', *Environment and History* **21** (2015): 257–279.

and Poland' that had accompanied the Kingdom's industrialisation.²⁶ In the 1960s on, the topic was well documented by Andrzej Jezierski, who published a reference work on the Kingdom's external economic relations in the nineteenth century.²⁷ His quantitative analysis showed that trade in these regions, shaped since the sixteenth century by Western demand for farm and forestry products, turned to the east after the middle of the nineteenth century, with the arrival of railways and the development of Russian demand for industrial products. He claimed that the 1880s marked the turning point in this process, since from then trade with Russia increased regularly, while trade with the West stagnated (Figure 1).

Figure 1. Kingdom of Poland's foreign trade (1880–1910)



Source: Jezierski, *Handel zagraniczny*, p. 151.

Meanwhile, manufactured products overtook raw materials as a share of the trade balance. By 1910, they were 99.3% of total exports by value to Russia, compared with 33.1% of exports to the West: manufactured goods dominated in the other direction, 61.7% of imports from Russia and 58.7% from the West.²⁸

For these calculations, Jezierski had to overcome considerable methodological difficulties. Once the Kingdom of Poland was joined in a customs union with the Empire in 1851, its foreign trade stopped being counted separately. Research was thus required in the archives of customs offices and railways, containing incomplete data that were unreliable and often contradictory. Then there was the problem of goods in transit across the Kingdom to and

²⁶ R. Luxemburg, *Die Industrielle Entwicklung Polens* (Leipzig: Duncker & Humblot, 1898).

²⁷ A. Jezierski, *Handel zagraniczny Królestwa Polskiego, 1815–1914* (Warsaw: Państwowe Wydawnictwo Naukowe, 1967).

²⁸ *Ibid.*, p. 184.

from other territories, already raised in earlier research.²⁹ Although the rigour of Jezierski's approach was widely praised, the methodological choices he made – such as only using figures from the largest customs posts and using constant prices – necessarily involved some distortions and even errors of appreciation. Meant to be mainly a contribution to the history of industry, his book was criticised, for instance, for having underestimated the role of land-based products in this story.³⁰

Since then, there have not been any other attempts to establish a full account of the Kingdom of Poland's foreign trade from 1851 to 1913, which is probably due to the magnitude of the task and a gradual disinterest in a certain type of quantitative history. This approach can nevertheless be undertaken today with new sources and methodologies. I propose to give one illustration of this by focusing on a specific aspect: trade with Germany, the Kingdom's major Western trade partner, from 1880 to 1913. One of the obstacles Jezierski faced was the difficulty of working with Russian statistics, particularly railway data, which are exhaustive from 1890 but totally lacking in order, with no uniform presentation or index of goods.³¹ There are, however, other corpora that can be used to overcome some of these problems with respect to trade with Germany. A series published from 1883 onwards as 'Statistics on goods movements on German railways' gives domestic and cross-border flows for 70 product groups first on a quarterly basis and then annually from 1897.³² Its great advantage is not only its granularity in time – in comparison, Jezierski only gives figures at five- or ten-year intervals – but also the fact that it provides separate accounting for goods traded with the Kingdom of Poland and with 'the rest of Russia', thus avoiding the need to estimate the share of transit goods. Although this series is clearly a source of great value for studying Germany's trade relations in the late nineteenth and early twentieth centuries, it has only recently begun to be systematically exploited.³³ Another series, also under-used so far, covers water-borne trade. Included in the 'German Empire statistics' published from 1873 on, it reports on the quantities of 62 product groups moving on German waterways each year. The figures were collected at various points

²⁹ W. Żukowski, *Bilans handlowy gubernij Królestwa Polskiego* (Warsaw: Słowa, 1901); H. Tennenbaum, *Bilans handlowy Królestwa Polskiego* (Warsaw: Wende, 1916).

³⁰ J. Łukasiewicz, 'O handlu zewnętrznym Królestwa Polskiego', *Przegląd Historyczny* **59** (2) (1968): 307–316, pp. 313–315.

³¹ Jezierski, *Handel zagraniczny*, p. 7.

³² *Statistik der Güterbewegung auf deutschen Eisenbahnen nach Verkehrsbezirken geordnet* (Berlin: Heymanns, 1883–1925).

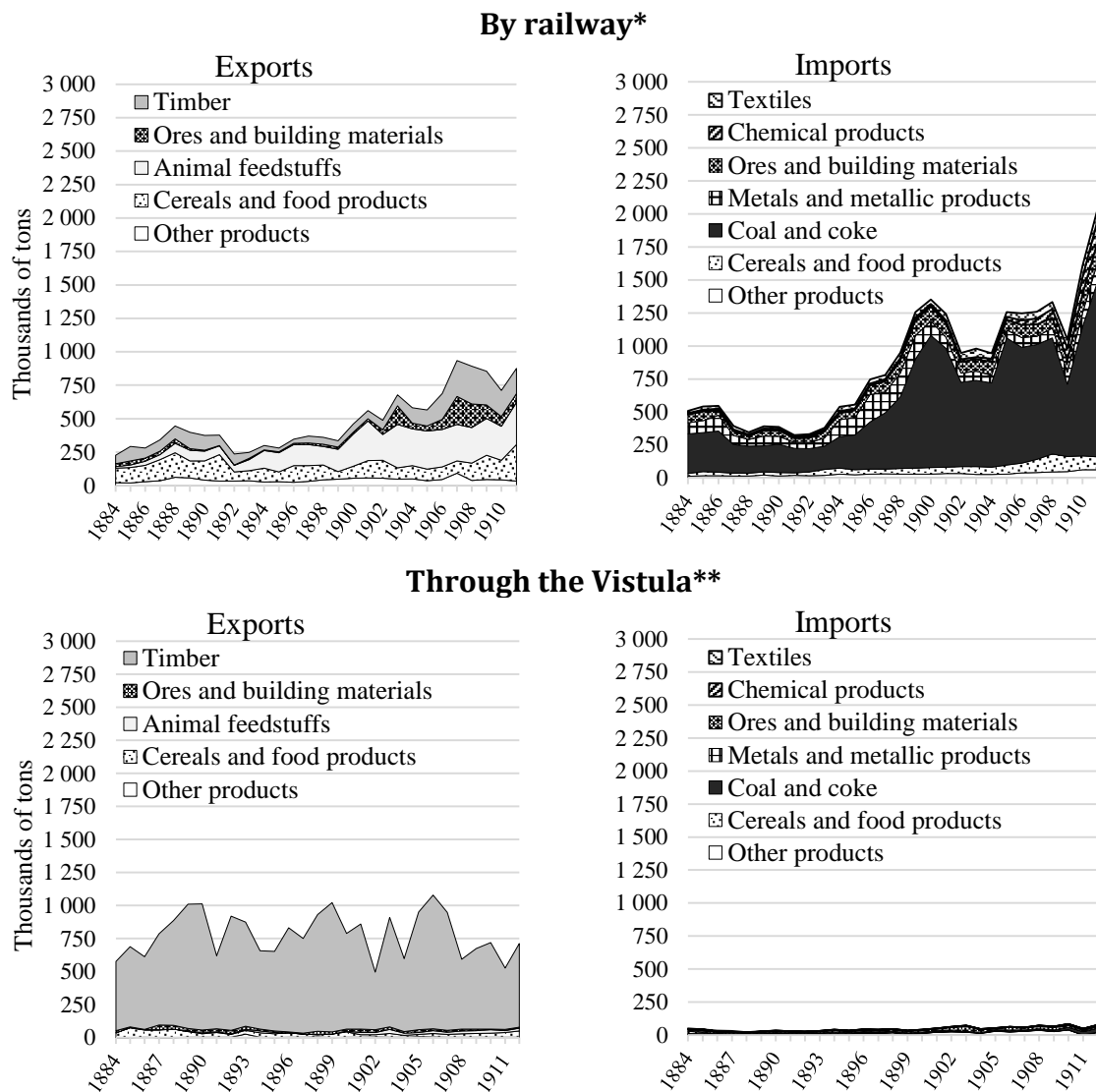
³³ H.-C. Heinemeyer, M.-S. Schulze and N. Wolf, *Endogenous Borders? The Effects of New Borders on Trade in Central Europe 1885–1933*, CESifo Working Papers No 2246 (CESifo, Munich, 2008); R. Lipelt, 'Foreign trade of Galicia and Bukovina and other Austrian countries at the end of the 19th century based on German railway statistics', *Studia Historiae Oeconomicae* **36** (1) (2018): 23–41.

in the network, usually major locks, harbours or border customs posts.³⁴ Although this second series does not resolve the transit goods problem (precise origins of goods are only specified from 1909), it is an information base of great value.

Use of these two sources does not necessarily give a more faithful image of reality than Jezierski's, but it does provide alternative viewpoints. By totalling the data in major categories, one obtains an initial table (Figure 2).

³⁴ *Der Verkehr auf den deutschen Wasserstrassen* (Berlin: Puttkammer & Mühlbrecht, 1874–1892); *Die Binnenschiffahrt: im Jahre...* (Berlin: Puttkammer & Mühlbrecht, 1893–1908); *Verkehr und Wasserstände der deutschen Binnenwasserstraßen* (Berlin: Puttkammer & Mühlbrecht, 1909–1918).

Figure 2. Kingdom of Poland's foreign trade with Germany (1884-1911)



* Excluding transit goods to countries other than Germany (usually less than 2% of the total).

** At river custom at Thorn. Exports include transit goods from Russia and Austrian Galicia.

Source: see footnotes 35 and 38.

Various observations may be made on the basis of these figures. First, the rapid rise in rail-borne imports from the early 1890s (with virtually none by water) confirms the image of a productive territory whose industrial activities required major inputs of coal, iron and machines, partly provided from its Western neighbour, Germany. The export data, however, show that extractive activity for foreign markets had not completely disappeared, since large quantities of raw materials continued to be sent West, particularly along the Vistula. Not until 1900 does the volume of goods exported by rail reach even half that by water, and only overtook it around 1910. Although obvious for goods by value, the idea that water-borne transport was gradually marginalised needs to be nuanced for goods by weight. One key factor here was the way that

railway infrastructure was developed. Military considerations are known to have played a major role in the slow development of the Polish network, since the Russian government feared its use by an enemy invading from the West. In 1914, there were only seven railway lines crossing the border with Germany (Figure 3).

Figure 3. The ‘Vistula Land’ at the turn of the nineteenth and twentieth centuries



Another point emerging from analysis of the figures is the overwhelming importance of timber, which accounted on average for 90% of exports along the Vistula and over 22% of exports by rail. This observation differs from Jezierski, who attributes only a secondary role to timber in the Kingdom’s exports (11.3% by value of the total in 1890, 20.7% in 1900 and 13.6%

in 1910), and devotes only a few lines to it.³⁵ Using value or weight thus leads to quite different conclusions. Although the choice of systematically using the monetary unit, the rouble, instead of the mass unit, the pood (16.38 kg) may be justified for an economic history more concerned with financial questions, focusing on data in metric tonnes opens up a dialogue with recent research into the purely physical aspect of trade and its significance in ecological terms.³⁶

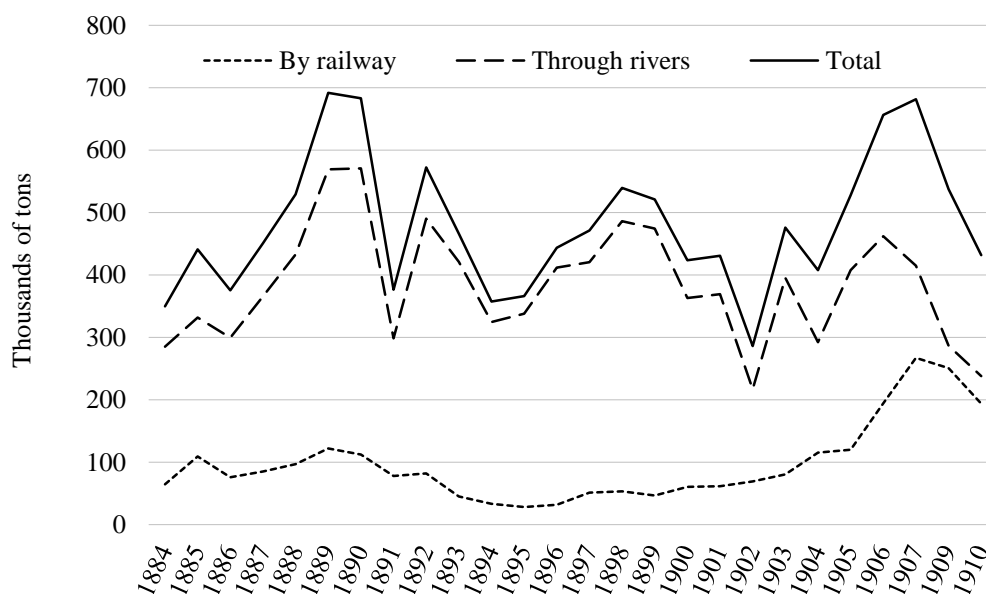
As we shall see, these timber exports were anything but marginal and innocuous, since they were the sign of a radical upheaval in the economic and environmental lives of many regions in Poland. But to have a vision as close as possible to reality, some adjustments must first be made to the waterway data: 1) subtract from the Vistula figures timber transiting from Galicia and the Russian parts of the Bug and Narew catchments; 2) add timber transported along the Neman from the Polish part of the catchment, less that transiting from Russia; 3) add figures for the Warta, whose upper catchment was in Poland. Some sources can be used to produce reasonable assumptions for the first two points (Figure 4).³⁷

³⁵ Jezierski, *Handel zagraniczny*, pp. 167 and 170.

³⁶ P. Kuskova, S. Gingrich and F. Krausmann, 'Long term changes in social metabolism and land use in Czechoslovakia, 1830–2000: An energy transition under changing political regimes', *Ecological Economics* **68** (1–2) (2008): 394–407; S. Gingrich, 'Foreign trade and early industrialisation in the Habsburg Monarchy and the United Kingdom – Two extremes in comparison', *Ecological Economics* **70** (7) (2011): 1280–1288.

³⁷ The Kingdom of Poland's share of exports along the Vistula appears to have declined and that of the Russian provinces to have increased: from 40% of the total until circa 1897, it seems to have fallen to 36% in 1903 and some 24% in 1913. I have assumed straight-line falls between these dates. For the Neman trade, I have assumed like Żukowski that the Kingdom of Poland's share was low throughout the period, 10% of total exports, which seems probable because of the small areas of the Kingdom along this river. Cf. *Archiwum Państwowe w Toruniu 207/1* (Toruń: Polish State Archives), p. 3; W. Piechowski, 'Wisła jak droga komunikacyjna i handlowa. IV Handel', *Ekonomista* **6** (1) (1906): 86–89; Żukowski, *Bilans handlowy*; Tennenbaum, *Bilans handlowy*, p. 170; M. Wojtkiewicz, *Śródlądowe drogi wodne na tle ewolucji transportu* (Warsaw: Dom Książki Polskiej, 1934), p. 455.

Figure 4. Kingdom of Poland's timber exports to Germany (1884–1911)



Source: see Figure 2.

Timber does indeed appear to be the odd man out: among traditional exports from Polish regions, it is the only one to continue being massively exported to the West, as it had been in the past (albeit not exactly the same products; see below). Cereals followed a quite different curve. By 1894, the lands of the Kingdom of Poland had even become net grain importers for the first time in history, as a result of fewer exports to the West and more imports from Ukraine.³⁸

THE RESOURCE FRONTIER ADVANCES UNDER PRESSURE FROM GERMAN TRADERS

When the Zollverein became a net timber importer in 1864, the forests of Poland had for centuries been providing forest products to Western Europe. With an offer of essential materials for ship-building, Poland traded mainly with Portugal and Spain during the first phase of globalisation in the fifteenth and sixteenth centuries, then with the Dutch trading empire in the seventeenth; in the eighteenth, it was mainly Great Britain and France that competed for

³⁸ Z. Landau and J. Tomaszewski, *Wirtschaftsgeschichte Polens im 19. und 20. Jahrhundert* (Berlin: Akademie-Verlag, 1986), p. 91; I. Pietrzak-Pawłowska, 'Pozycja ziem polskich w międzynarodowej wymianie gospodarczej na przełomie XIX i XX wieku', in *VIII Powszechny Zjazd Historyków Polskich w Krakowie 14–17 września 1958: referaty i dyskusja. Sekcja 6: Historia gospodarcza Polski* (Warsaw: Państwowe Wydawnictwo Naukowe, 1960), p. 373.

access to its valuable resources.³⁹ Contrary to an idea still present in historiography, that the nineteenth century was marked by a transition from organic to mineral resources and in particular from timber to coal, we now know that one was added to the other, since timber consumption rose considerably with industrialisation.⁴⁰ Pressure from German traders on the Kingdom of Poland's forests from the 1840s on and even more after German unification in 1871 was one manifestation of this trend. The aim now was less to build a fleet than to provide building materials and raw materials for railways, towns and industries.

This commercial predominance was achieved from the mid-1860s on, years in which trade was liberalised and unprecedented volumes were taken from the Kingdom's forests. After long using intermediaries, usually independent Jewish traders, German traders now went directly to forest owners so as to increase their profits. The private sale of standing timber was by far the most common practice. There were few auctions and these only involved the largest landowners.⁴¹ After 1864, German importers increased their purchases on the east bank of the Vistula, where commercial opportunities had arisen following the sale of much public property and the division of major estates after the emancipation of the serfs.⁴² For example, traders in Posen (Poznań) gradually extended their range of suppliers across the border.⁴³ In 1865, the S.D. Jaffé company acquired extensive estates in Russian Poland. During the following years, the two brothers heading the company would regularly travel to Warsaw to negotiate purchases.⁴⁴ Other importers based in cities such as Berlin, Stettin (Szczecin), Danzig (Gdańsk) and Thorn (Toruń) followed similar strategies, such as Buggenhagen & Co, very active in the 1860s. By the end of the decade, the Germans had already invested more than 15 million thalers in the forests along the Vistula and its tributaries.⁴⁵ The products traded reflect the composition of local forests, which were largely dominated by coniferous trees. Figures about timber floating provided by a German newspaper in Thorn in 1888 show that pine accounted for 89.4%

³⁹ S.G. Bunker and P. Ciccantell, *Globalization and the Race for Resources* (Baltimore: Johns Hopkins University Press, 2005), pp. 114–129.

⁴⁰ Iriarte-Goñi and Ayuda, 'Not only subterranean forests'; J.-B. Fressoz, 'Pour une histoire des symbioses énergétiques et matérielles', *Annales des Mines – Responsabilité et environnement* **101** (1) (2021): 7–11.

⁴¹ J. Daheur, 'Mesures du bois sur pied et «jeu de l'échange»: Les transactions forestières dans la Pologne du XIX^e siècle', *Histoire & Mesure* **32** (2) (2017): 103–134, p. 105.

⁴² W. Szostak, 'O stosunkach gospodarstwa leśnego gubernii plockiej', *Sylwan* **7** (5) (1889): 183–190.

⁴³ M. Jaffé, *Die Stadt Posen unter preussischer Herrschaft. Ein Beitrag zur Geschichte des deutschen Ostens* (Leipzig: Duncker & Humblot, 1909), pp. 221–222.

⁴⁴ We know this from the newspaper *Wiek*, which recorded the arrival of local and foreign businessmen in Warsaw hotels; see also: Jaffé Family, Posen Collection, Leo Baeck Institute – Center for Jewish History, New York, AR 4037– Series II: 1/33–35.

⁴⁵ Ministerium für Handel und Gewerbe, *Jahresberichte der Handelskammern und kaufmannischen Korporationen des Preussischen Staats für 1869* (Berlin: Verlag der Königlichen Geheimen Ober-Hofbuchdruckerei, 1870), p. 619.

of the 607,517 pieces of roundwood imported by Germany via the Vistula that year. Fir (most likely merged with smaller quantities of spruce) accounted for another 3.0%. The hardwoods shared the rest, including alder (5.5%), birch (0.83%), oak (0.55%), ash (0.43%) and beech (0.34%). The distribution was a little different if we look at processed pieces. For railroad and tramway sleepers, for example, oak accounted for 45.3% of the 1.32 million pieces imported, compared with 54.7% for pine.⁴⁶

In the south-east of the Kingdom, the extraction of building timber for long-distance trade was still relatively undeveloped because of the greater distance from Germany and, not least, poor infrastructure, making timber hauling on sandy or marshy land difficult. Improved transport and higher prices changed the situation from the 1870s. In 1872, traders from Stettin travelled to Lublin to negotiate purchases for orders placed by British industrialists.⁴⁷ In the following years, the region became a major centre for exporting timber to Germany. This is evidenced by the origin of the 145 rafts that passed through the Płock pontoon bridge in April 1876: just under one third came from the banks of the Wieprz, virtually the same number as those from Lithuania.⁴⁸ In 1881, a Berlin company – most probably the Berliner Holz-Comptoir – bought from Count Potocki the Nieporęt forests a few kilometres north of Warsaw for 600,000 roubles.⁴⁹ This transaction was widely reported because it was one of the largest investments ever made by a foreign timber trader in the Kingdom of Poland and involved the arrival of a number of German colonists.⁵⁰ Further south, the Berlin company David Francke & Söhne moved into the Lublin governorate, acquiring in 1881 vast concessions in the forests of Count Tomasz Zamoyski; the company employed many Jewish agents and competed fiercely with local traders.⁵¹ Other major companies placed agents at strategic points in the waterway network and sent out German lumberjacks to work in the forests. In the Puławy region, for example, these German workers felled the trees and tied them together to form rafts.⁵²

Although local farmers generally continued to make up the bulk of the labour force on logging sites, contractors frequently brought in skilled workers from other regions. Workers, especially Germans, who specialised in squaring techniques, were particularly in demand. The floating of timber in rafts, which remained the main mode of long-distance transport, also required highly experienced workers. Many of them came from Austrian Galicia, where rafting

⁴⁶ *Thorner Presse* n° 267, 1888, p. 3.

⁴⁷ *Austauschblätter zum Einfuhrzolltarif* n° 17, 26/04/1872.

⁴⁸ *Gazeta Handlowa* n° 81, 85, 86, 92, 96 and 101, 04/1876.

⁴⁹ *Gazeta Świąteczna* n° 11, 11/03/1881.

⁵⁰ *Kurjer Warszawski* n° 56, 27/02/1881.

⁵¹ J. Janicka, *Żydzi Zamojszczyzny: 1864–1915* (Lublin: Norbertinum, 2007), pp. 154–155.

⁵² *Gazeta Handlowa* n° 94, 12/04/1889.

had been declining due to the competition from the local railroad network, which was much denser than in Russian Poland. At the beginning of the 1870s, for instance, hundreds of Galician raftmen came to the Łomża governorate to collect rafts in the Narew basin and drive them to Germany, at a time when there was a shortage of candidates for rafting in the region.⁵³ Further south, in the Lublin governorate, many Galicians settled for good after having bought farmland at prices sometimes only half the price of Galicia. They drove timber on the Vistula during the rafting season and cultivated their plots during the rest of the year.⁵⁴

Although the German strategy of investing in Polish forests took some time to be generally accepted in German society, with an active protectionist movement in the 1870s and 1880s, it triumphed by the end of the century. It may be interpreted as the result of a desire to shift into Central Europe some of the burden of extraction from domestic forests, in an age of accelerating industrialisation and urbanisation. Access to Polish timber enabled Germany to limit its own annual harvest to a volume that did not exceed the natural growth of its forests and thus preserve its timber heritage despite galloping consumption. Between 1890 and 1910, German timber imports doubled from about 5.5 to 11.6 million cubic metres. In contrast to firewood, which was virtually exclusively supplied by domestic forests, a substantial part of the timber used by the German economy came from abroad. Between 1907 and 1913, 32.2% of domestic consumption was covered by imports. If Germany had to cover its need by itself, it should have been able to harvest a total of 21.2 million hectares (at an average harvest of 2.01 m³/ha), which, in relation to the country's surface area, would have required an afforestation rate of 39.2 percent, about 12 percentage points higher than the actual one. On the eve of the First World War, German forests covered an area of 14.2 million hectares, almost 300,000 hectares more than that recorded when the Empire was proclaimed in 1871.⁵⁵

As one of the main supply areas, the forests of the Kingdom of Poland played an important role in this process. They also brought greater profits for the companies involved in trading and a major financial benefit for Germany. To a large extent, forest purchases in the Kingdom of Poland looked like the 'zone of the anti-market' defined by Fernand Braudel, 'where the great predators roam and the law of the jungle operates'.⁵⁶ Generally the German purchaser had a number of decisive advantages over the Polish landowner: better information,

⁵³ *Варшавский дневник* n° 101, 1874, p. 1.

⁵⁴ *Głos* n° 45, 28/10/1889, p. 569.

⁵⁵ J. Daheur, 'La sylviculture allemande et ses « hectares fantômes » au tournant des XIXe et XXe siècles', *Revue Forestière Française* 69 (3) (2017): 227–239.

⁵⁶ F. Braudel, *Civilisation matérielle, économie et capitalisme, XVe-XVIIIe siècle. Les jeux de l'échange* (Paris: Le livre de poche, 1993 [1979]), pp. 264–265, English translation by Siân Reynolds.

abundant capital and creditworthiness, and, not least, the laxity of local authorities that were not always prepared to resist aggressive commercial practices. Lacking specialised knowledge and permanently short of experienced staff, landowners in the Kingdom of Poland found themselves subject to sale conditions that were often one-sided.⁵⁷ As the logging frontier moved towards the eastern edges of the Vistula catchment, the supply chains between producers and consumers lengthened. Only the German purchaser was aware of market conditions at both ends of the chain, and thus of his expected gain. His main argument was cash on the nail and he could soften up the vendor with apparent generosity. Throughout the nineteenth century, many Polish-language publications attacked the power relationship between traders and forest owners as being unbalanced to the latter's disadvantage. These observers deplored the owners' lack of technical forestry knowledge and their inability to correctly assess the value of their trees.⁵⁸

The German importing firms were often family-owned with limited starting capital, but managed to become more efficient and gradually increase their capacity for action. The increasing size of their supply area required better-trained staff and specialisation in timber, whereas some of these family firms had long traded other goods too, such as textiles, cereals and spirits.⁵⁹ Their information networks and increasing financial flexibility enabled them to seize the best opportunities, wait for periods of low prices and sign advantageous long-term contracts for the supply of standing timber. In 1877–1878, for example, when their domestic demand was temporarily low, German traders took advantage of fluctuations in the rouble exchange rate to make advantageous purchases and continue to harvest profits.⁶⁰ Local Jewish traders, who traditionally acted as middlemen for access to the most remote forests, saw their position threatened. In the 1870s, the stewards of the Włodawa estate on the banks of the Bug, an entailed property of the Zamoyski family, still mainly dealt with Jews from Warsaw who supplied the Danzig importers. In the 1880s, new German purchasers based in Posen, Bromberg (Bydgoszcz) and Berlin gradually begin to appear in the estate's correspondence.⁶¹ A little to the west, on the Ostrowski estate in Lubartów, the presence of German firms also became more visible. In the years following the emancipation of the serfs, logging concessions largely went

⁵⁷ Daheur, 'Mesures du bois sur pied'.

⁵⁸ See, for example, B. Aleksandrowicz, *O drzewie i jego użytkach* (Warsaw: Gazeta Codzienna, 1855), pp. 167–168.

⁵⁹ See the case of the Seligsohn family. J. Daheur, 'Le livre de famille d'Hermann Seligsohn (1832–1915): moi, famille et communauté chez les marchands juifs de Posnanie au XIXe siècle', in C. Maurer (ed.), *La mise en scène du moi entre France et Europe centrale : livres d'amitié, écritures du for privé, écritures de l'intime* (Strasbourg: Presses Universitaires de Strasbourg [forthcoming]).

⁶⁰ *Gazeta Handlowa* n° 50, 17/03/1878.

⁶¹ Archiwum Państwowe w Lublinie, 86/34 (State Archives in Lublin).

to local traders. By the end of the century, the estate forests were being logged by German companies such as Berliner Holz-Comptoir, David Francke & Söhne, Rütgerswerke AG and Schwarz & Nieckandt.⁶² The same was true for the lands of Count Maurycy Zamoyski, where David Francke & Söhne established themselves in 1903 by signing a ten-year contract to log 100 to 250 hectares a year and build a railway line to take the timber to the River Tanew.⁶³

The German companies' increasingly effective control over forests in the Kingdom of Poland was also due to a process of concentration within Germany. After 1900, a handful of large firms based in and near Berlin dominated timber imports. On the ground, these companies formed an oligopsony or potential cartel, and could easily play off the owners against each other. In order to achieve economies of scale and thus maximise profit, they tended to purchase increasing areas of forest. Their use of resources from industrial and banking capital increased. By the turn of the century, Germany had eleven joint-stock companies in the timber sector, with a total share capital of more than 15 million marks.⁶⁴ The power of these companies was partly based on their ability to collude in their commercial operations. Trade associations were one way of pooling their purchases of raw materials and planning production to track demand and regulate prices.⁶⁵ The powerful association of timber traders and processors in eastern Germany was founded in Berlin in 1893 to represent its members' interests to the German and other governments. There was no equivalent in the Russian Empire at that time.⁶⁶ But the most important factor in German companies' success at the time was the support they enjoyed from their government's trade policy. Turning away from Bismarck's legacy of protectionism, Chancellor Caprivi and his successors negotiated highly advantageous agreements with the Russian Empire at the turn of the century. After a 'Tariff War' in 1893–1894, Germany managed through its trade treaties of 10 February 1894 and 28 July 1904, the latter for thirteen years, to import unprocessed timber virtually without duties, whereas export tariffs on sawn timber were maintained or increased; Russia, meanwhile, was not allowed to ban timber exports.⁶⁷ Conditions so unfavourable to the Russian timber industry were the result of complex

⁶² Archiwum Główne Akt Dawnych, 344/1068, 344/1135, (Central Archives of Historical Records) pp. 1–4.

⁶³ Archiwum Państwowe w Lublinie 71/13378 and 18960 (State Archives in Lublin); *Kurjer Warszawski* n° 137, 1906.

⁶⁴ K. Täger, *Die Einwirkung der letzten Wirtschaftskrisis auf die industriellen Aktiengesellschaften in Deutschland* (Munich: Schweizer, 1905), pp. 60 and 73.

⁶⁵ G. von dem Borne, 'Das Kartellwesen und seine Bedeutung für die deutsche Holzindustrie', *Zeitschrift für Forst- und Jagdwesen* 39 (1907): 576–589.

⁶⁶ V.I. Denisov, *Lesnaja Rossii, ih èksploataciia i lesnaja torgovlja* (Saint Peterburg: Kiršbaum, 1911), p. 96.

⁶⁷ *Sopostavlenie russkogo i germanskogo konvencionnyh tarifov 1904 g. s konvencionnymi tarifami 1894 g.* (Saint Petersburg: Rossijskaja èksportnaja palata – Materialy po peresmotru torgovyh dogovorov, 1912), p. 47.

tariff negotiations in which Russia was forced to make many concessions.⁶⁸ German timber importers could thus maintain their cheap supplies of raw material while reducing the chances of development of their competitors to the east.

IMPERIAL RUSSIAN POLICY AS AN AGGRAVATING FACTOR

Since the forestry economy of the Kingdom of Poland was subject to such external pressure, it ought to have received extra attention from the Russian government in the form of protection and support. The opposite occurred, and not only by such reverses as these highly disadvantageous trade treaties with Germany, which Russia kept trying to revise.⁶⁹ A number of policy decisions made in Saint Petersburg appear to have created major commercial opportunities for the German companies. The Russification policy following the January Uprising is a case in point. From 1863 to 1868, many Polish nobles, imprisoned or forced into exile, had their property confiscated because of their active participation in the Uprising. Tsar Alexander II granted most of it to generals who had helped put down the revolt.⁷⁰ In all, some 100,000 hectares of woodlands were involved. Theoretically these forests should have been managed sustainably, under instructions issued for public estates in 1839. But the new owners often ignored the instructions and as a result many of the forests were opened up to the export market.⁷¹ At the same time the forestry departments were reorganised. In 1867, the Polish Government Commission for Revenues and Treasury was abolished, and in 1880, state forests came under the direct control of the Ministry of Finance in Saint Petersburg.⁷² This reorganisation caused a major divestment campaign. Vast areas were sold to traders who exported the timber, particularly from the governorates of Warsaw, Radom, Piotrków and Lublin.⁷³

⁶⁸ J.V. Žil'cova and A.V. Žil'cova, 'Russko-germanskaja tamožennaja vojna i trgovye dogovory 1893 i 1904 godov. Čast' I', *Meždunarodnyj buhgalterskij učet* **21** (14) (2018): 852–866; A. Matveeva, 'Russko-germanskij trgovyj dogovor 1894 g. v kontekste "novogo kursa" germanskogo kanclera L. fon Kaprivi', *Istoriya* **11** (85) (2019).

⁶⁹ G. Kasperovič, *Lesnoe delo, lesnaja trgovlja i lesopromyšlennost' Rossii v svjazi s peresmotrom trgovyh dogovorov* (Petrograd: Ministerstvo finansov. Materialy k peresmotru trgovyh dogovorov, 1916).

⁷⁰ J. Miklaszewski, 'Ogólny rzut oka na rozwój leśnictwa w Królestwie Polskim w XIX wieku', in *Pierwszy Zjazd polskich leśników w Krakowie 1907. Referaty, 2007* (Kraków: Wydawnictwo PTL, 2007 [1907]), p. 29; J. Kukulski, *Generalowie carscy i ich majątki ziemskie w Królestwie Polskim (1835-1920)* (Warsaw: Neriton, 2007), pp. 260–268.

⁷¹ *Das Deutsche Wirtschaftsjahr 1881* (Berlin: Simion, 1882), pp. 516–517.

⁷² A. Górak, 'Reformy administracji lasów państwowych w Królestwie Polskim i ich geneza (1867–1880)', in K. Latawiec and A. Duszyk (eds), *Lasy Królestwa Polskiego w XIX wieku: struktura, administracja, gospodarka* (Radom: Radomskie Towarzystwo Naukowe, 2007), pp. 119–150.

⁷³ Miklaszewski, 'Ogólny rzut oka', p. 31; *Kurjer Warszawski* n° 7, 26/12/1885; *Kurjer Warszawski* n° 150a, 01/06/1886.

Agrarian policy had similar consequences for private forests. Under a strategy designed to reconcile the Polish peasantry with Russian rule, at the time of the 1861–1864 uprising the government announced a set of reforms favourable to the peasants in order to gain their support.⁷⁴ The decree of 2 March 1864 granted them freehold land with compensation for the local nobles. Although these measures temporarily improved conditions for the peasantry, they were a permanent economic loss for the Polish nobility. The commissioners in charge of redistributing the land allocated the best land to former serfs and the major landowners only kept the remainder, plus the forests. Their estates became less profitable and faced serious financial problems, as liquidities and credit lines dried up.⁷⁵ Many owners sold their forests, often to Jewish traders, who had the timber exported to Germany. In Lublin governorate, for example, the major landowners sold vast forests to revive their finances. Few owners were spared.⁷⁶ In addition there were endless disputes over forest easements, which the Russian government had deliberately kept in the western fringes of the Empire, while they had been lifted in the rest of Russia. The political aspect of this decision was clear: to maintain sources of friction between Polish nobles and peasants in order to prevent them uniting against the Tsar.⁷⁷

Recurrent disputes over easements gave the owners no incentive to invest in modern forest management. Jolted out of their habitual lives, many preferred to sell their forests rather than have to face dealing with their former serfs. The law of 31 December 1875 laid down the rights and obligations of each side. Any owner who wished to use a forest with easements for commercial purposes was only allowed to log after submitting the plans to the competent authority.⁷⁸ In practice, the decisions of the commissions in charge of establishing the easement termination schedules were influenced by the local political context. Where the landowner was a proven Polish patriot, the peasants were granted more timber; if, on the other hand, the owner

⁷⁴ K. Groniowski, *Realizacja reformy uwłaszczeniowej 1864 r.* (Warsaw: Państwowe Wydawnictwo Naukowe, 1963), pp. 11–37.

⁷⁵ Janicki, Rosiński and Ubysz, *Stosunki rolnicze*, p. 446.

⁷⁶ S. Mazurek, 'Przemiany ekonomiczno-społeczne w guberni lubelskiej po reformie uwłaszczeniowej', *Annales Universitatis Mariae Curie-Skłodowska Lublin-Polonia*, Section F **15** (4) (1960): 79–112, p. 100; A. Kopruckowiak, 'Dobra ziemskie rządowe – prywatne Cichostów i Żminne w 1830–1915. Zatargi na tle serwitutowym w latach 1864–1914', in A. Kopruckowiak (ed.), *Studia z dziejów ziemian 1795–1944* (Lublin: Lubelskie Towarzystwo Naukowe, 2005), p. 147.

⁷⁷ K. Studnicka-Mariańczyk, 'Polityka władz rosyjskich wobec rolnictwa w Królestwie Polskim 1815–1914', *Prace Naukowe Akademii im. Jana Długosza w Częstochowie* **13** (2014): 125–142, pp. 136–137.

⁷⁸ *Vysočajše utverźdennoe položenie 31 dekabrya 1875 g. o porjadke pol'zovanija lesami, obremenennymi krest'janskimi servitutami v gubernijah Carsiva Pol'skago* (Saint Petersburg: Martynov, 1895); L. Górski, *O dobrowolnych umowach właścicieli folwarcznych z włościanami, w celu zniesienia służebności pastwiskowych i leśnych w Królestwie Polskiem* (Warsaw: Gebethner & Wolff, 1876), pp. 9–10.

managed to bribe the authorities, the easements were reduced almost to nothing.⁷⁹ Under private arrangements, more than 320,000 hectares of woodland, mainly in the governorates of Lublin, Warsaw and Radom, were opened up for logging.⁸⁰ Easement terminations closely coincided with German timber imports during the fifteen years after the emancipation of the serfs, especially between 1871 and 1875, just when German demand was highest, during the rapid growth that followed the unification of the Reich.⁸¹ German capital was directly involved as Polish landowners were often helped by traders, who provided the money to have the easements removed as quickly as possible. In 1883, the Holz-Bank of Berlin, for example, bought from a landowner near Lublin some 5,000 trees for 50,000 roubles. In addition, the owner received from the firm an interest-free loan of 50,000 roubles. This was intended to enable a settlement with the easement holders within five years. Once that time had passed, the owner would transfer the forest to the traders.⁸² Arrangements of this sort appear to have been common. In 1880, the writer Bolesław Prus made one of them the backdrop to a novel.⁸³

Private forests, once the easements had been lifted, were long able to be exploited by their owners with no restrictions. Concerns about deforestation, however, had given rise to early discussions of protective legislation. Between 1835 and 1858, a committee was set up to examine the question. Its members came from the autonomous Polish administration and prepared a bill to align the management of private forests with the principles applied in state forests since 1839, requiring sustainable volumes of logging over long periods.⁸⁴ The bill would have allowed the authorities to restrict harvesting on properties that still had no logging plan, but in the end it was never introduced.⁸⁵ A more considered initiative came from the Land Credit Society, founded in Warsaw in 1825 to grant long-term loans to landowners. Its instructions dated 26 March 1861 stipulated that in exchange for financial aid, owners were to manage their forests sustainably.⁸⁶ But these requirements only concerned a small number of large estates at the time. It was not until Alexander II came to the throne that more general

⁷⁹ S. Kieniewicz, *The Emancipation of the Polish Peasantry* (Chicago: University of Chicago Press 1969), pp. 178–179.

⁸⁰ A.J. Rostworowski, *Die Entwicklung der bäuerlichen Verhältnisse im Königreich Polen im 19. Jahrhundert* (Jena: Fischer, 1896), p. 68.

⁸¹ This period of rapid growth after 1871 is known as the *Gründerjahre* ('founders' years'). It came to an end with the stockmarket crash of spring 1873, but business remained strong until 1876 in certain timber-consuming sectors such as construction and railways.

⁸² *Gazeta Handlowa*, n° 261, 1883.

⁸³ This novel, *Anielka*, was first serialised as *Chybiona powieść* ('A Failed Novel') in the *Kurjer Warszawski* in 1880, and then published as a book in a slightly altered form in 1885.

⁸⁴ Miklaszewski, 'Ogólny rzut oka', pp. 49–50.

⁸⁵ S. Barański and J. Broda, *Dzieje lasów, leśnictwa i drzewnictwa w Polsce* (Warsaw: Państwowe Wydawnictwo Rolnicze i Leśne, 1965), pp. 164–165.

⁸⁶ Miklaszewski, 'Ogólny rzut oka', p. 63.

legislation began to be enforced, for example with the introduction of awards for the best reforestation work.⁸⁷ In 1878, the 4th all-Russian congress of forest owners and foresters was held in Warsaw. At the end of it, a committee was formed to draft a conservation law for the Kingdom of Poland. The draft was submitted to the Russian government in 1883, but with no result.⁸⁸

Finally, change came from Saint Petersburg, with the proclamation on 4 April 1888 of the first forest protection law in the Empire.⁸⁹ It was an unprecedented tightening of regulation in private forests in the public interest, requiring planned, moderate logging.⁹⁰ Forests were divided into three categories: those that protected against silting, landslides and floods, which had to be strictly preserved; those that contributed to the flow of waterways, which were to be maintained in area; and those, the vast majority, which could be logged after approval by a special committee. Only the articles concerning protective forests were immediately applied throughout the Empire. For the Kingdom of Poland, it was considered that the restrictions contained in the Land Credit Society's 1861 and 1875 instructions concerning forests with easements were sufficient to limit the damage.⁹¹ The law was therefore not applied immediately within the Kingdom, or indeed in the adjacent governorates to the east, which were also seriously affected by export markets. Pressures from trading interests may well have played a role in this decision, but the matter has not yet been properly researched. What is sure is that this delay in enforcing the law caused a massive prejudice to the forests in the west of the Empire. Anticipating the future difficulties they would have in exploiting the forests, traders and landowners pushed ahead with their deals, leading to a rapid increase in the Kingdom's exports in 1888 and 1889 (cf. Figure 4 above). That year a newspaper reported that the main Berlin traders had met in a Warsaw restaurant to agree to lower prices, since sales proposals were flooding in.⁹² The increased deforestation that followed caused concern in many quarters. In 1894, a meeting was held in Warsaw of Prussian, Russian and Austrian government representatives to address the low water levels that were disrupting river transport. Seizing the chance to raise the forestry issue, the participants requested a rapid introduction of the 1888

⁸⁷ M.O. Tjapkin and O.A. Tjapkina, 'Razvitie zakonodatel'stva ob ohrane častnyh lesov Rossijskoj imperii vo vtoroj polovine XIX v', *Izvestija Altajskogo gosudarstvennogo universiteta* **4** (2016): 144–149.

⁸⁸ 'Usprawiedliwienie projektu ustawy leśnej Królestwa Polskiego', *Ekonomista* **3** (1880): 6–10.

⁸⁹ 'Vysočajše utverždennoe Položenie o sbereženii', in *Polnoe Sobranie zakonov Rossijskoj imperii*, vol. 8, (Saint Petersburg: Martynov, 1888), pp. 148–155.

⁹⁰ E. Pravilova, *A Public Empire: Property and the Quest for the Common Good in Imperial Russia* (Princeton: Princeton University Press, 2014), p. 62.

⁹¹ *Gazeta Warszawska*, n° 47, 1889.

⁹² *Gazeta Warszawska*, n° 34, 1889.

law in Poland.⁹³ But the procedure dragged on because of opposition to the law, particularly from free-market thinkers who criticised the restrictions on the freedom to do business and the retroactive nature of the rules.⁹⁴ German importers were also greatly concerned.⁹⁵

The law as it applied to the governorates of the Kingdom of Poland was finally promulgated on 8 June 1898. It repeated the articles of the 1888 law in a slightly modified version.⁹⁶ Since the law was retroactive, a number of disputes between purchasers and vendors broke out, although some adjustments were made in order for logging concessions to continue. This was possible, for example, where the landowner submitted to the committee a logging plan that included the felling previously requested by the trader.⁹⁷ In other cases, the purchasers found a way of continuing their logging, even illegally. They could do this all the more easily because the foresters in charge of inspecting the forests were too few, or were poorly qualified. A revealing point is that over half the 135,900 roubles allocated to protecting forests in 1908 apparently went to pay for office staff and supplies.⁹⁸ Slow procedures were another problem: after an assessor's inspection, the papers were not always processed swiftly. To counter this problem, the members of preservation committees asked the Governor-General to apply a special rule for the Kingdom of Poland giving them authority to stop a logging operation immediately.⁹⁹ Ten years after the introduction of the forest preservation law in Poland, its first results began to be assessed. The hopes of the early years had quickly been dashed. Foresters said the law ignored the specific features of the forestry issue in Poland, primarily the many easements in the country.¹⁰⁰ Every year, agreements between owners and easement-holders led to forests being allocated to peasants – more than 37,000 hectares, for example, from 1909 to 1911¹⁰¹ – but the legislation did not cover these forests, often felled shortly after the property transfer.¹⁰²

⁹³ *Kraj* n° 23, 1894.

⁹⁴ *Głos* n° 16, 1897; *Kraj* n° 28, 1897.

⁹⁵ 'Die Danziger Holzhändler', *Forst-Zeitung* **13** (1898): 630.

⁹⁶ H. Oberfeld, *Zbiór praw i przepisów o ochronie lasów z dnia 4 (16) kwietnia 1888 wraz ze zmianami i uzupełnieniami dla Królestwa Polskiego według Najwyższej zatwierdzonego zdania Rady Państwa z dnia 8 (20) czerwca 1898 roku* (Warsaw: Gebethner & Wolff, 1899).

⁹⁷ *Tydzień* n° 6, 1899; *Kraj* n° 13, 1894.

⁹⁸ D.K. Sažin, 'Hozjajstvenno-lesovodstvennaja i kanceljarsko-administrativnaja dejatel'nosti kazennogo lesničego', *Lesnoj žurnal* **7–8** (1910); M. Orlov, *Osnovy lesoochranenija v Rossii: doklad Vseros. s"ezdu lesovladel'cev i lesohozjaev dlja obsluživanija lesoochranitel'nogo zakona* (Saint Petersburg: Aleksandrov, 1911).

⁹⁹ *Kurjer Warszawski* n° 81, 1899.

¹⁰⁰ J. Miklaszewski, 'Wspomnienia z wszechrosyjskiego zjazdu właścicieli lasów i gospodarzy leśnych w Petersburgu', *Leśnik Polski* **2** (1911): 446–455, p. 454.

¹⁰¹ Janicki, Rosiński & Ubysz, *Stosunki Rolnicze*, pp. 432–433

¹⁰² Miklaszewski, 'Wspomnienia', p. 447.

The Russian government's neglect of the forestry economy in its Polish periphery also showed with respect to infrastructure. The lack of railways has been mentioned above. Although the military reasons for this are clear, it had economic implications particularly for the timber sector: the lack of connections with Germany, favouring water transport, stopped forest owners from moving up the value chain, because rafting damaged sawn logs.¹⁰³ A second problem in transport was the government's reluctance to support investment projects. Noting the factors that ensured German traders' domination of the market, some Polish operators sought a solution in upgrading canals so as to widen the transport options and thus escape the effects of tariffs and commissioners in the border towns. As early as the 1820s, Congress Poland's authorities had planned a canal from the catchments of the Vistula and the Neman to the Baltic port of Ventspils in Courland (now Latvia), an access to the sea that would avoid Prussian territory. In 1824 the project was submitted to Tsar Alexander I, who approved it. Its construction was interrupted by the November Uprising of 1831, and only its first section was completed, namely the Augustów Canal.¹⁰⁴ In the early 20th century, the second section, intended to reach the Baltic, once more aroused interest. The agricultural societies of Lithuania, mostly run by Poles, sent petitions to Saint Petersburg on the subject.¹⁰⁵ Although these were positively received by some in the central administration, the government commission that met in 1911 to decide the matter was sceptical about the success of a project that they considered too expensive.¹⁰⁶ Further to the west, a plan for a canal from the Vistula to the Warta suffered the same fate. Around 1900, the idea was put forward by a member of the Land Credit Society, who suggested the canal should start from Włocławek to Konin so that timber could avoid Thorn and serve new markets via the German province of Posen.¹⁰⁷ A commission was set up under the authority of the Warsaw Polytechnic (University of Technology) to examine possible routes.¹⁰⁸ After being approved by the Governor-General and the Warsaw Chamber of Trade and Industry, the project was submitted to the Ministry of Transport.¹⁰⁹ Its execution was not a simple matter, however, because of the expense required to dig the canal and regulate the River

¹⁰³ A. Sikorski, 'O drewnie okrągłym', *Leśnik Polski* 3 (2) (1912): 53–60, p. 54.

¹⁰⁴ K. Karczyński, 'Żegluga śródlądowa w Królestwie Polskim (1815–1830) a polityka gospodarcza ministra skarbu, księcia Franciszka Ksawerego Druckiego-Lubeckiego', *Progress: Journal of Young Researchers* 3 (2018): 9–25.

¹⁰⁵ R. Jurkowski, *Ziemiaństwo polskie Kresów Północno-Wschodnich, 1864–1904* (Warsaw: Przegląd Wschodni, 2001).

¹⁰⁶ 'Žurnal" soroe" šestogo zasedanija Meždu vedomstvennoj Komissii dlja sostavlenija plana rabot" po ulučeniju i razvitiju vodjanyh" soobšenij Imperii. Zasedanie 16 aprelja 1911 goda', *Bjulleten' Mežduvedomstvennoj komissii* 8–9 (1911): 297.

¹⁰⁷ *Kurjer Warszawski* n° 270, 1901.

¹⁰⁸ 'O kanale Wisła-Warta', *Przegląd Techniczny* 39 (44) (1901): 440–442.'

¹⁰⁹ *Kraj* n° 51, 1901.

Warta.¹¹⁰ In 1903, the ministry concluded that the opening of this canal would only be profitable for German traders and that there was consequently no reason to finance it.¹¹¹ This is further support for one of the main conclusions of Ekaterina Pravilova's research: in the eyes of Russian policy-makers, Poland remained financially and economically a special territory that shared no interests with Russia.¹¹²

SOCIAL AND ENVIRONMENTAL COSTS OF EXTRACTION: THE PRICE OF PERIPHERY

With hindsight, the economic impact of Russian policy towards its Polish periphery was ultimately somewhat ambivalent: although some decisions had a highly positive impact on industry, at least for a time, the picture for forest preservation was extremely negative.¹¹³ Despite the approximate nature of the available sources, particularly official statistics that were long patchy, the fact that there was massive deforestation in the nineteenth century is in no doubt.¹¹⁴ Polish and Russian foresters drew attention to the problem at their congresses in Kraków (1907) and Saint Petersburg (1911), and they appear not to have exaggerated. Whereas in 1824 the Kingdom of Poland would appear to have had just over 3.8 million hectares of forest, by 1880, this figure had fallen to 2.7 million. The loss was considerable, with a million hectares felled in half a century.¹¹⁵ The late application of the 1888 law did not slow the trend. From 1898 to 1911, more than 167,000 hectares were felled, a reduction of 6.6% in less than fifteen years. The speed of logging had even increased, with annual losses rising from 11,604 hectares in 1880–1897 to 15,220 in 1898–1911.¹¹⁶ This result was worse than that in the rest of Russia, which 'only' lost 2.5% of its forest area from 1888 to 1905.¹¹⁷ Deforestation did not affect all territories equally, however, nor at the same speed in all regions. In Kurpie, for example, the decline was rapid from 1830 to 1885 and then continued more slowly until the

¹¹⁰ Bertog, 'Die Bedeutung der Wasserstraßen für die Forstwirtschaft', *Forstliche Rundschau* 2 (5) (1901): 71–76.

¹¹¹ 'Russische Kanalpläne', *Verkehrszeitung und industrielle Rundschau* 17 (30) (1903): 148.

¹¹² Pravilova, *Finansy imperii*, p. 199.

¹¹³ For a more general discussion of this ambivalence, see R. Jurkowski, 'Jeszcze o "paradoksach" imperialnej polityki Rosji w guberniach zachodnich po powstaniu styczniowym', *Echa Przeszłości* 14 (2013): 93–107.

¹¹⁴ For discussion of these figures, see M. Romanowska, 'Zmiany w zalesieniu Królestwa Polskiego w ostatnim stuleciu', *Czasopismo Geograficzne* 12 (3/4) (1934): 246–284; M.A. Cvetkov, *Izmenenie lesistosti Evropejskoj Rossii s konca XVII stoletija po 1914 god* (Moscow: Akad. Nauk SSSR, 1957).

¹¹⁵ This was as much as the Vistula catchment had lost in the hundred years from the mid-sixteenth to mid-seventeenth centuries. Cf. J.W. Moore, "'Amsterdam is Standing on Norway" Part II: The Global North Atlantic in the Ecological Revolution of the Long Seventeenth Century', *Journal of Agrarian Change* 10 (2) (2010): 188–227, p. 208.

¹¹⁶ Janicki, Rosiński and Ubysz, *Stosunki rolnicze*, pp. 432–433.

¹¹⁷ Pravilova, *A Public Empire*, p. 73.

start of the twentieth century.¹¹⁸ But in the Lublin region, it intensified considerably in the final years of the nineteenth century.¹¹⁹ Just before the First World War, the area of maximum deforestation ran west along the Rivers Vistula and Warta and then in strips into the higher ground of southern Poland and Podlasia. A few extensive woodlands remained along the Neman and in the south-east along the border (see Figure 3 above).

It would be simplistic, however, to consider the pressure from exports to Germany solely in terms of reduced forest cover. In many cases, commercial activity did not lead to the complete removal of forests but rather to a loss in their value in ecological terms. Of course, serious forms of damage linked to the traditional peasant economy (overgrazing harmful to young trees, excessive firewood collection, slash-and-burn agriculture etc.) existed long before the export boom to Germany. Yet, the rise of commercial exploitation for long-distance trade triggered new types of threats for local ecosystems. The dominant way of selling forests in the Kingdom was by granting concessions to merchants who were allowed to cut down a certain number of trees or all the trees in a given area.¹²⁰ The precise conditions of operation in the forest were, however, rarely settled by contract. And when they were, only the owners who were fortunate enough to hire well-trained and committed forest supervisors had the means to compel the purchasers to fulfil their obligations.¹²¹ As a result, forest recovery was often compromised by logging operations. Selective cutting was often done in a hurry, without consideration for the surrounding trees that were damaged during the hauling of large timber pieces. Moreover, the choice of seed trees – a crucial factor for the natural regeneration of the forest, at a time when only a few owners had the means to undertake artificial planting or seeding – was generally left to the discretion of merchants. Since they had no interest in leaving behind trees of good market value, they often selected those of poor quality that ended up uprooted or broken by the wind after some time. Forest regeneration was also hampered by the stumps that many merchants did not bother to remove after the cut. On such lands, ecological succession was at the expense of trees which did not have enough space to grow and suffered from competition with the herbaceous layer. As a result, oak, ash, beech and even pine forests tended to disappear when their renewal was left to natural regeneration. They were replaced by

¹¹⁸ J.M. Matuszkiewicz, J. Wolski and A. Kowalska, 'A map of sequences of "forest/non-forest states" over the last 200 years in the borderland between Poland's Masuria and Kurpie regions', *Geographia Polonica* **86** (4) (2013): 393–402.

¹¹⁹ H. Maruszczak, 'Stan i zmiany lesistości województwa lubelskiego w latach 1830–1930', *Annales Universitatis Mariae Curie-Skłodowska Lublin-Polonia*, Sectio B **5** (1) (1950): 109–178.

¹²⁰ Daheur, 'Mesure du bois sur pied'.

¹²¹ W. Jankowski, 'Lasy prywatne w Królestwie Polskiem i ich najważniejsze potrzeby', *Przegląd Leśniczy* **1** (1875): 159–165, p. 163.

pioneer species of low commercial value such as aspen and birch.¹²² Moreover, while most of logging was until around 1860 still taking place on land suitable for conversion to farming, so that timber exploitation and land reclamation expanded together, this was no longer always the case afterwards. With the constant increase in demand and the disappearance of forests located on the most fertile lands, merchants shifted to areas where no crop could grow, i.e. the so-called 'absolute forest soils'. This was a major issue on the sandy plains that had once been covered with pine, one of the few species that could flourish on very poor soils. On such lands, large-scale removals of trees favored wind erosion and the appearance of mobile sand dunes which represented a threat for neighboring farmland, pastures, roads and even settlements.¹²³ In some regions, this became a really harmful problem, especially from the moment when demographic growth made every plot of arable land crucial to survival.

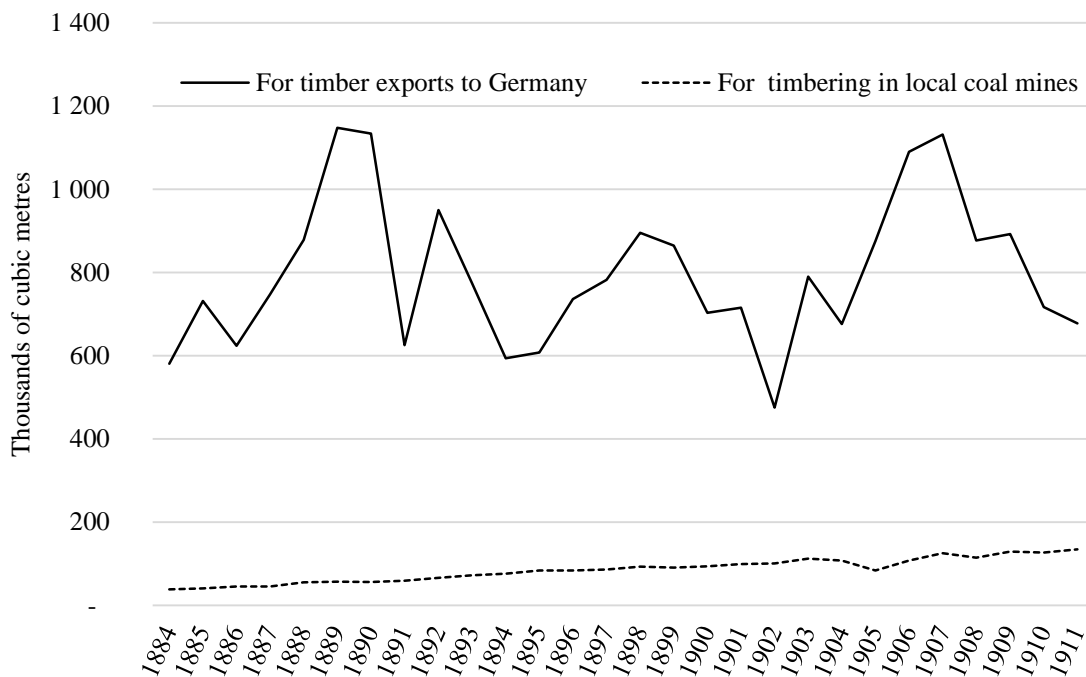
Environmental degradation associated with commercial logging might be seen as the price to be paid to support an industrial and urban development that benefited broad sections of the population, as occurred in other European regions during the same period. Various pieces of evidence, however, invalidate this hypothesis. Arguably, the boom in manufacturing and the building of railways in the nineteenth century played only a secondary role in the process of deforestation, except perhaps in the Łódź region, where industrial growth and urbanisation were more intense than elsewhere, with increased demand for timber and the expansion of built-up areas on former woodland.¹²⁴ Industrial growth in general was indeed rapid, but seems to have exerted only relatively little pressure on forests, at least when compared to timber exports. The estimated volume of timber used in the Dąbrowa coalfield mine (mainly as pit props), for example, remained throughout the period much lower than what was sent to Germany (Figure 5).

¹²² L.B., 'Die Forstwirtschaft in Rußland', *Österreichische Monatsschrift für Forstwesen* **1** (4) (1883): 27–28; Górski, *O dobrowolnych umowach*, pp. 9–10.

¹²³ *Gazeta Toruńska* n° 73, 29/03/1873; E. von Liebert, *Von der Weichsel zum Dnjepr: geographische, kriegsgeschichtliche und operative Studie* (Hannover: Helwing, 1886), p. 199.

¹²⁴ W. Ziomek and D. Klemantowicz, 'Zmiany lesistości a industrializacja Królestwa Polskiego w XIX i XX wieku', in W. Łysiak (ed.), *Las w kulturze polskiej*, vol. 6 (Poznań: Wydawnictwo Eco), pp. 79–86; K. Baranowski, 'Udział budownictwa drewnianego w zabudowie Łodzi w XIX i XX wieku', *Kwartalnik Historii Kultury Materialnej* **21** (2) (1973): 225–239; A. Pietrzak, 'Zmiany zalesienia terytorium województwa łódzkiego od okresu porozbiorowego do czasów obecnych', *Region łódzki. Studia i materiały* **3** (1973): 41–60.

Figure 5. Two examples of timber uses in the Kingdom of Poland (1884–1911)



Sources: See Figure 4 and my own calculations after W. Puś, *Rozwój Przemysłu w Królestwie Polskim* (Łódź: Uniwersytet Łódzki, 1997), pp. 127–128 and M. Lincke, *Das Grubenholz von der Erziehung bis zum Verbrauch* (Berlin: Parey, 1921), quoted by M. Endres, *Handbuch der Forstpolitik* (Berlin: Springer, 1922), p. 609. To calculate the volume of timber used in the Dąbrowa coalfield mines, I have taken figures for the adjacent region of Upper Silesia (2.27 m³ per 100 tonnes of coal mined).

Nor does transport appear to have played a driving role in Poland’s deforestation, as the correlation between road improvements and forest disappearance was only attested in a few cases. The road network was sparse, with only 70 metres of road per square kilometre (compared with 490 metres in Germany), and as undeveloped as the rail network.¹²⁵

The picture is not much better in terms of wealth creation. Income from the sale of timber did indeed probably enable some landowners to raise funds that they then used to modernise their forest management or invest in local industry. But this only involved a tiny number of large landowners able to make real, sustainable profits from their forest estates. In most cases, the sale of forestry products, which many continued to see as ‘dead capital’, was used to cope with sudden setbacks, reduce debt or extend the mortgage on the estate.¹²⁶ The timber was sold in emergencies, therefore, and, as we have seen, on terms often highly disadvantageous to the owners. The peasants, meanwhile, never really managed to make a profit from the small wooded plots they were granted when serfdom was abolished or easements were

¹²⁵ Romanowska, ‘Zmiany w zalesieniu’, pp. 267–268.

¹²⁶ J. Konczyński, *Rolnictwo i przemysł w Królestwie Polskim przed wojną* (Warsaw: Hoesick, 1924), p. 57.

terminated. While selling these woods did provide them with cash to acquire means of production and briefly improve their lives, it was of no use to them in the long term. So in the Kingdom of Poland there was nothing like the ‘forest-based’ development that historians have identified in Scandinavia, where the sale of timber from a large number of small forest properties provided a gradual increase in rural incomes that enabled farmers to invest in more advanced agricultural practices and then fed into crafts and industries serving the domestic market.¹²⁷ In contrast with Finland, for instance, where the forests had been mainly owned by private people and families in the wake of the land ownership reforms of the mid-eighteenth century,¹²⁸ the structure of forest ownership in the Kingdom of Poland remained very unequal, even after the division of large estates following the emancipation of the serfs. In 1910, peasants owned only 341,931 hectares out of a total of 2.37 million, i.e. 14.4% of the Kingdom’s woodlands, versus 48.4% for large estates and 29.4% for the state.¹²⁹ As a result, revenue accruing to Polish forest owners was not widely distributed in the society.

The situation was probably better for some local Jewish traders. It certainly was during the years immediately after the emancipation of the serfs, when a number of families used the timber trade to escape from poverty and some enjoyed considerable social mobility.¹³⁰ The capital thus accumulated was partly invested in other businesses, laying the foundations for the development of an entrepreneurial Jewish middle class that played a driving role in Poland’s industrial development. When in the early 1880s the Russian authorities were considering tightening the economic and civic restrictions that applied to Polish Jews, two Warsaw businessmen committed to assimilation attempted to point out the positive role they played in the country’s prosperity. They displayed a sort of economic patriotism whereby the Jewish timber trade was a way of resisting German influence in that sector.¹³¹ It is true that their position was beginning to be challenged by external competition, as the closing years of the nineteenth century, as we have seen, were marked by monopolistic German advances.

¹²⁷ J. Raumolin, *The Problem of Forest-Based Development as Illustrated by the Development Discussion, 1850–1918* (Helsinki: University of Helsinki, 1990).

¹²⁸ P. Sutela, ‘How to escape the trap of resource-based development: Contrasting experiences’, *Ěkonomičeskij žurnal Vysšej školy ěkonomiki* 6 (3) (2002): 315–323, p. 316; M. Palo, J. Uusivuori and E. Lehto, ‘Forest-based development in Finland – a unique success?’, in M. Palo and J. Uusivuori (eds), *World Forests, Society and Environment* (Springer: Dordrecht, 1999), p. 312.

¹²⁹ Janicki, Rosiński and Ubysz, *Stosunki rolnicze*, p. 437.

¹³⁰ B.D. Weinryb, *Neueste Wirtschaftsgeschichte der Juden in Russland und Polen* (Breslau: M. & H. Marcus, 1934), p. 57; I. Schiper, *Dzieje handlu żydowskiego na ziemiach polskich* (Warsaw: Związek Kupców, 1937), pp. 489 and 553.

¹³¹ A. Eisenbach, *Z dziejów ludności żydowskiej w Polsce w XVIII i XIX wieku: studia i szkice* (Warsaw: Państwowy Instytut Wydawniczy, 1983), pp. 274–275.

To turn now to the industrial activities linked to timber extraction, the picture is also rather mixed. Historians of Poland have often highlighted the remarkable boom in this sector at the end of the nineteenth century, mainly on the basis of the growth in value of its production.¹³² It is true that the successes posted by some branches were really impressive, such as the bentwood furniture industry, in which the Kingdom of Poland produced 90% of the Russian Empire total *circa* 1910.¹³³ Some disparities visible at the macroeconomic scale, however, tend to nuance the idea of a generally flourishing industry. Although there were highly productive wood industries in the Kingdom of Poland, throughout the west of the country they were largely dependent on the German market and its resources of technology and capital. Despite relatively high tariffs on sawn timber after 1890, profit levels remained high due to investment conditions in those regions: easy and inexpensive access to timber resources, and a low paid labour force with little workplace protection. In around 1902, ‘foreign’ entrepreneurs, mostly Germans, owned only 30 of the 213 sawmills operating in the Kingdom of Poland, 14.1% of the total. But they accounted for much more in production (28.1%) and employee numbers (47.2%).¹³⁴ As in industry in general, a major feature was the unstable nature of the investments. Piotrków and Kielce governorates contained many factories that mainly served the Silesian market and interacted little with the rest of the local economy, in a form of disconnection typical of a periphery.

Things were probably better in regions that could direct some of their production to the domestic market, such as Lublin governorate, which served Warsaw. The capital used unprocessed timber floated from the east along the Bug and Narew to feed particular factories. But this capture of trade flows for productive purposes was fairly limited. As late as 1912, 90% of the pine logs rafted along the Kingdom’s river network were sent abroad.¹³⁵ It is hardly surprising, then, that the Kingdom did not manage to meet its own needs in processed products. The industries located in governorates bordering Poland, particularly Volhynia, Grodno (Hrodna), Vilnius and Minsk, competed fiercely by flooding major cities with low-cost sawn timber sent by rail. The Kingdom’s own industries were thus caught between Western demand for raw materials and Russian supply of processed products, a situation similar to the ‘double

¹³² B. Mikulec, ‘Przemysł drzewny na Lubelszczyźnie w latach 1864–1914’, *Annales Universitatis Mariae Curie-Skłodowska*, Sectio F **54-55** (1999): 399–410; W. Ziomek, ‘Przemysł drzewny okręgu sosnowiecko – częstochowskiego, na tle rozwoju tej gałęzi Królestwa Polskiego w latach 1870–1914’, in W. Łysiak (ed.), *Las w kulturze polskiej* (Poznań: Eco, 2009), pp. 79–86; W. Ziomek, ‘Ziemianie w przemyśle drzewnym Królestwa Polskiego (1870–1914)’, *Studia z Historii Społeczno-gospodarczej* **8** (2010): 153–165.

¹³³ Tennenbaum, *Bilans handlowy*, p. 438.

¹³⁴ S. Koszutski, *Rozwój ekonomiczny Królestwa Polskiego w ostatnim trzydziestoleciu, 1870–1900 r.* (Warsaw: Księgarnia Naukowa, 1905), p. 65.

¹³⁵ J. Miklaszewski, ‘Z rynku drzewnego w Królestwie Polskiem’, *Leśnik Polski* **3** (1) (1912): 8–18.

dependency' noted by Jacek Kochanowicz.¹³⁶ While logs accounted for 61.4% of the 10.3 million roubles worth of goods exported to the west *circa* 1910, sawn timber was the largest import from Russia, 66.4% of 9.57 million roubles.¹³⁷ Overall the financial balance was disadvantageous, since the Kingdom earned from its foreign trade in timber a net annual profit of only 296,000 roubles, very little when set against the environmental cost of the continual deforestation.

Sociological evidence confirms this poor position, particularly the many disputes linked to the export economy. As in other extractive regions, the depletion of resources for commercial gain soon threatened local means of subsistence. Forest decline became a problem in a country where the road and rail networks were sparse. The traders who supplied wood to local consumers were thus often in a monopoly position and could set prices high. The peasants who had lost their easements had no option but to buy wood for heating and building or repairing their houses. In Płock governorate, for example, timber ran short following a rapid reduction in forest cover, and people either had to buy it locally at high prices or travel far.¹³⁸ Although major urban centres served by transport links enjoyed deliveries from forests both near and far, the countryside suffered major shortages, particularly when export pressures combined with population growth.¹³⁹ As they saw their economic position deteriorate, many country dwellers devised a whole range of actions, from petitions to have state forest wood sold at knockdown prices, to illegal acts such as theft or trespass in forests to stop felling. Significantly, the ten Polish governorates alone accounted for well over half the timber thefts recorded in European Russia: 54,000 out of 97,930 in 1892.¹⁴⁰ Some offences directly targeted timber traders, as in the river piracy case tried at Płock in 1901. Eleven men were accused of robbery and extortion over ten years against traders operating on the Vistula. The 'pirates' turned out to be impoverished workers looking for means of survival, because of an absence of jobs and decline in local timber and fish resources.¹⁴¹ The 1905 Revolution made these actions more visible. The collapse of State authority in rural areas led to whole villages invading forests and mass

¹³⁶ J. Kochanowicz, 'The Economy of the Polish Kingdom: A Question of Dependence', in M. Balint, J. Hartley and A. Mączak (eds), *Finland and Poland in the Russian Empire: A Comparative Study* (London: University of London, 1995), pp. 123–139.

¹³⁷ Tennenbaum, *Bilans handlowy*, p. 186.

¹³⁸ *Wiek* n° 18, 1876.

¹³⁹ From 1868 to 1910, Kingdom's population rose from 5.7 to 12.2 million. A. Wyczański and F. Kubiczek, *Historia Polski w liczbach. Gospodarka*, vol. 2 (Warsaw: Zakład Wydawnictw Statystycznych, 2006), p. 74.

¹⁴⁰ B.P. Mrozovskij, *Kratkij očerk lesnoj promyšlennosti i torgovli lesom v Rossii i v važnejših inostrannyh gosudarstvah* (Saint Petersburg: Devrien, 1900), p. 108.

¹⁴¹ J. Daheur, 'Socio-environmental crisis and banditry: A case of river piracy in late nineteenth-century Poland', *Le Mouvement Social* 264 (2018): 93–111.

looting.¹⁴² Many landowners preferred to sell their trees rather than have them stolen or burnt. This exceptional logging also boosted exports, which were unprecedentedly high in 1906–1907 (cf. Figure 4 above). Foreign companies also suffered from the hostility of an angry population. In the Biłgoraj region, David Francke & Söhne had its equipment confiscated and its workers driven away by insurgents. Some peasants demanded both unrestricted access to state forests and a halt to all timber exports.¹⁴³ These incidents show that different social groups, both in small cities and rural areas, considered timber exports to Germany as a real hindrance to their well-being and the development of the country.

Conclusion

The view that there was little economic exchange between the various parts of historical Poland in the latter half of the nineteenth century is still widely held by historians.¹⁴⁴ Although this is broadly true, it should probably be nuanced somewhat by focusing more on, say, the physical flows and their ecological significance. There is certainly at least one notable exception to the standard view: the timber trade, which appears to have followed a separate path compared with other rural goods, and by no means an innocuous one. At macroeconomic level, forest exploitation in the Kingdom of Poland for timber exports to Germany had consequences no less important than the imports of coal and cotton for the Łódź textile industry. It, too, helped radically alter socio-economic conditions for millions of people and contributed to a profound change in the environment. The timber trade also provides a further chapter in the analysis of economic intertwining in this part of Europe, showing that east-to-west flows of raw materials, which had not stopped, coincided with capital movements the other way and migration in both directions.¹⁴⁵ Not least, it suggests we should fine-tune our understanding of the ways in which a territory moves towards the centre or the periphery. Whereas study of industry places Poland in a fairly good position in the latter half of the nineteenth century, the

¹⁴² J. Borkowski, *Chłopi polscy w dobie kapitalizmu* (Warsaw: Państwowe Wydawnictwo Naukowe, 1981), p. 96; R. Lewis, *Revolution in the Countryside: Russian Poland 1905–1906* (Pittsburgh: University of Pittsburgh, 1986), p. 26; A. Kopruckowiak, 'Udział wsi powiatu puławskiego w rewolucji 1905–1907 roku', *Annales Universitatis Mariae Curie-Skłodowska*, Sectio F **11** (1960): 121–142, p. 133.

¹⁴³ R. Blobaum, *Rewolucja: Russian Poland, 1904–1907* (Ithaca: Cornell University Press, 1995), p. 140.

¹⁴⁴ Z. Landau, 'The economic integration of Poland, 1918–1923', in P. Latawski (ed.), *The Reconstruction of Poland, 1914–1923* (London: Macmillan, 1992), pp. 144–157; K. Struve, 'Die Kapitalisierung der Landwirtschaft und die Durchsetzung der Industrialisierung', in M.G. Müller et al. (eds), *Polen in der europäischen Geschichte. Ein Handbuch. 3: Die polnisch-litauischen Länder unter der Herrschaft der Teilungsmächte (1772/1795–1914)* (Stuttgart: Hiersemann, 2020), p. 376.

¹⁴⁵ U. Müller, 'East Central Europe in the First Globalization (1850–1914)', *Studia Historiae Oeconomicae* **36** (1) (2018): 71–90.

same is not true for timber extraction, when considered both economically and environmentally. A lesson to be drawn here is the non-linear nature of movement from periphery to centre, or vice versa. The Kingdom of Poland's timber exports were not a simple continuation of the historic Baltic trade, a sort of archaic phenomenon naturally headed for decline. They were in fact part of a new dynamic, parallel and opposite to this territory's industrialisation: the advance of a resource frontier making the Kingdom a raw timber reserve for a Germany that had become the leading industrial power on the continent.

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