



Spatial political economy: the case of metropolitan industrial policy

Franklin Obeng-Odoom¹

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Abstract

Industrial policy has become the focus of much more interest in recent times. Of particular note is mainstream economists' fascination and their peculiar claims about how and why this new industrial policy promotes growth, redistribution, and sustainability. Such contentions warrant scrutiny. Using metropolitan data, plans, and laws, along with regional and national data from census and survey reports, this paper addresses three questions related to growth, inequality, and sustainability. On the basis of the evidence, collected and interpreted from the lens of original institutional economics, it is argued that industrial policy has been too strictly tied to (urban) economic growth which has not, contrary to expectations, led to ecologically sensitive and inclusive (urban) economic development. Instead, growth policies have cumulatively generated rising urban inequalities and ecological problems in cities and regions. This lack of congruence between the case for, and outcomes from, the pursuit of a particular type of industrial policy can be partly explained by the presence of absentee land ownership. Its entanglements with rent theft, profit seeking, and problematic engagement with persistent inequalities and unsustainability complement the explanation. A different industrial policy could seek to recoup socially-created, but privately appropriated, unearned income, reinvest this resulting revenue in ways that directly build state capacity, address persistent urban inequalities, attend to ecological challenges, and seek to create industries that avoid the problems of 'progress and poverty'.

Keywords Industrial Policy · Oil Cities · The Global South · Africa

JEL R11 · O18 · O25 · O55 · P16

✉ Franklin Obeng-Odoom
franklin.obeng-odoom@helsinki.fi

¹ University of Helsinki, Helsinki, Finland

1 Introduction

Now that mainstream academic (e.g., Groenewegen 2000; Chang 2002; Rodrik 2014; Stiglitz et al. 2013; Rodrik 2014; Eder et al. 2018) and non-academic (e.g., *The Economist* 2022) economists are re-engaging with the theory and practice of industrial policy, it is important to consider carefully the claims they make about the congruence between industrial policy implementation and growth, investigate how such growth shapes redistribution, and reflect on the resulting industrialised economy, society, and environment. Doing so is important because mainstream economic accounts are highly influential: they have, in essence, shaped industrial policy making in Africa (Hutchful 2002; Killick 2010; Stiglitz et al. 2013). Also, existing studies have long subjected more classical, institutional and evolutionary economics theorising about industrial policy to systematic empirical research both in Africa (e.g., Peil 1972; Jeffries 1978; Andr e 1981; Whitfield 2018) and elsewhere (see, for example, Amsden 1989; Rodrik 2014; Noman and Stiglitz 2015; Gollin et al. 2016; Aiginger and Rodrik 2020), in both policy (Quartey et al. 2020) and popular (*The Economist* 2020a, 2021a) analyses.

Some studies have tried to evaluate mainstream theories of industrial policy, too (e.g., Ewusi 1981), but these theories have in more recent years evolved (Rodrik 2014; Aiginger and Rodrik 2020; Weiss 2020). The embrace of industrial policy in mainstream economics in which there is a more active role for the state in setting conditions for industrial take-off is quite distinct from the prevailing theory during the era of structural adjustment programmes in which economic policy focused on removing barriers to private sector participation and on creating a conducive business environment. In addition, the new mainstream economic theory of industrial policy gives more room to new institutional economics, greater space for ecological considerations, and fresh arenas for indigenisation.

The question is whether this new theory is analytically sound in terms of what it promises regarding growth, redistribution, and sustainability. Our review of the literature (Obeng-Odoom 2022) shows that we know quite a lot about the prospects of state-led industrial policy, both in terms of space and time, and quite a bit about the class power of manufacturing workers, and economic growth. However, many questions remain. Theorising industrial policy across and within schools of thought seems to require a little more work. Probing questions of sustainability and linking them to growth and not just spatial inequality, but also social inequalities within space constitute a second research frontier. Third, and most fundamentally, industrial policy research appears to be about capital and its accumulation. Much like the global literature, barely any of the studies on industrial policy has given a central place to urban land, which is usually framed as marginal to industrial policy making or theorising, except in the role of creating an ‘enabling environment’ for capital to flourish.

Oil cities in Africa constitute a point of departure for raising three resulting research questions (RQ): (1) What are the essential features of the urban economic growth that arises from implementing the new mainstream economic theory of industrial policy (Growth)? (2) How congruent are the claims of the new mainstream economic theory of industrial policy with the empirical realities of trends in urban inequalities (Distribution)? (3) In what ways have the implementation of the new mainstream industrial policy shaped urban socio-ecological experiences (Sustainability)?

Existing research on oil in Ghana abounds. Major studies (e.g., Obeng-Odoom 2014, Heilbrunn 2014; Andrews and Siakwah 2021) have typically focused on the resource curse theory, Dutch disease, anomie, social dysfunction, factor endowment hypothesis, neo patrimonialism, and rent seeking. Therefore, they examine oil and deindustrialisation (Dutch Disease); not oil, industrialisation, and the new theory of industrial policy based on which I have raised three research questions.

To address such questions, it is crucial to develop a specific institutional political-economic approach, central to which is land from which oil is extracted either onshore or offshore. Such a methodology must also prioritise Africa, which, although it was central to W. Arthur Lewis's pioneering theorising about industrial policy (Lewis 1953) is typically the focus of relatively little research. Yet, Africa is a major seat of oil production in the world: 11 per cent of global production and 8 per cent of total global reserves (Obeng-Odoom 2014, 2020). Just as importantly, contrary to claims that Africa is deindustrialising (Rodrik 2015), Africa is, in fact, reindustrialising. The share of manufacturing workers in sub-Saharan Africa increased from 7.2 per cent to 8.4 per cent between 2010 and 2021. Since 2001, manufacturing output has increased by 91 per cent (*The Economist* 2021a, p. 30).

Based on this approach, I focus on Sekondi-Takoradi, Ghana's oil cities, to evaluate the orthodox case for industrial policy. Using metropolitan data, plans, and laws, along with regional and national data from census and survey reports, this paper argues that industrial policy has been too strictly tied to (urban) economic growth which has not, contrary to the theorising, led to ecologically sensitive (urban) economic development. Growth policies have cumulatively generated rising urban inequalities and ecological problems in the twin Ghanaian oil cities. This lack of congruence between the case for, and outcomes from, the pursuit of a particular industrial policy can be partly explained by insufficient industrial policy engagement with persistent inequality and unsustainability. More fundamentally, it can be explained by the presence of Henry George's (1879/1935, pp. 118, 125, 128) concept of 'absentee and alien landlord'¹, a class which, according to George, lived off the private appropriation of socially created rents in places to which they had no attachment and in which they considered their presence temporary. In turn, absentee landlords have no interest in making long-lasting investment. Because these

¹ Thorstein Veblen's (1923/1997) concept of 'absentee owners' is much broader, but in its use priority is usually given to capital and economic questions. George's concept of 'absentee and alien landlord' is more specific, typically centred on land, primarily, and is used to analyse both economic and ecological questions, as well as social and ethical problems.

absentee landlords do not actually contribute to production, the ‘resource rents’ they demand are draining, a payment by producers to speculators for which there is little or no return for the land (George 1879/1935, p. 128).

An alternative industrial policy should seek to recoup socially created, but privately appropriated, unearned income, reinvest this resulting revenue in ways that directly build state capacity, directly address persistent inequalities, directly attend to ecological crises, and directly seek to create industries that avoid the problems of ‘progress and poverty’, which Henry George (1879/1935) famously showed were the ‘cause of industrial depressions and increase of want with increase of wealth’. Marion J. Levy, Jr. (1997, p. xxi) has even called for ‘absentee governance’ ‘to alert us to the lack of participation and statesmanship that becomes ever more critical as we become ever more interdependent’. These arguments are developed in three sections. *Theoretical Claims* discusses mainstream economic theorising about industrial policy, resulting studies, and remaining questions. *Researching Ghana* describes how the research questions are addressed, and *Results* provides answers to the research questions.

2 Theoretical claims, existing studies, and research questions (RQs)

Industrial policies are based on diverse theoretical foundations. They range from the Keynesian to the mainstream. In between these two ends of the spectrum are institutional economic theories of industrial policy (e.g., Elsner 2000; Chang 2002, 2011; Cimoli et al. 2020). Of all these theories, however, the most influential, at least in Africa, has been the mainstream version. John Weiss’s (2020) recent account—‘Neoclassical Economic Perspectives on Industrial Policy’—makes that point. So, the nature of this orthodoxy must be presented, at least as a sketch for empirical verification. The theories address questions about the why, where, and how of industrial policy.

Underpinning the modern mainstream theory of industrial policy is the concept of market failure (Weiss 2020). ‘A persistent criticism...by Western economists is that it [extensive state intervention] leads to a misallocation of resources. It is argued that since there is no market for intermediate goods, no interest charge on capital, and subsidies and taxes are used to arrive at final prices, prices do not reflect relative scarcities and thus distort resource allocation’ (Wilber 1973, p. 221). Therefore, industrial policy in this mainstream tradition avoids extensive intervention, limiting itself only to correcting externalities by internalising them within competitive market structures (Weiss 2020). The typical mainstream faith in markets is maintained, but mainstream economists recognise that, in the Global South generally, markets face many obstacles. Hence, according to mainstream economists, markets must be filtered and fettered by the state. This intervention is not meant for the state to provide. Rather it is designed (i) to create the enabling environment for markets to form and flourish and (ii) to create specific institutions about labour (e.g., human capital, innovation, and intellectual property rights programmes), capital (e.g., transnational corporations, private sector development, and public-private

partnerships), and land (e.g., private property rights, technology, and green energy). The vision remains utilitarian. Centred largely on export-oriented growth, which is not an end in itself but a driver of even more growth, redistribution and ecological change, this vision gives a significant role to an environment in which transnational co-operations create networks and chains for small scale industries to benefit from spill-over effects.

From this perspective, as John Weiss's (2020) account shows, the state must be both an enabler and a guarantor. As an enabler, it must emphasise an environment that makes the cost of production lower and lower. One way of doing so is to reduce the cost of transportation and communication by improving the quality of infrastructure such as roads, fast-speed internet, and electricity. As a guarantor, the state must give certainty to investors by assuring them of state protection from uncertainty. Doing so could entail registering and respecting property rights in land and in innovation. Taking a soft stance or no stance on a minimum wage is considered an asset—after all, industries flourish where the cost of production, including wages, is low. The market itself can establish wages through a process of supply and demand of skilled workers. Interventions in this process could distort the labour market. All this might sound like standard mainstream theory, but there is a difference in this industrial policy perspective. A certain quota of positions might be given to some workers based on factors such as nationality. Supporting free trade is another because it ensures that goods and services provided in the process of production can be exchanged in global markets.

Just as central to the theory is how industries are chosen in industrial policy-making. Classical economists favoured either absolute advantage or comparative advantage as the test of how the state could approach this task. Mainstream economics retains an interest in comparative advantage, but it is guided somewhat more by the theory of competitive advantage, developed by Harvard University economist, Michael Porter (1990a, b). In this theory, nations grow and change based on how well their industries expand, drawing on strategic information and innovation policy for industrialisation, more than fortuitous natural resources. In this process, the role of the state is one of 'catalyst and challenger' (Porter 1990a, p. 87), encouraging and pushing companies to grow, to aspire for higher ground, and to move to higher levels of competitiveness.

A major way in which mainstream economists identify these advantages is to rely on the microeconomics of cost-benefit analysis (Weiss 2020). Here, several projects are compared based on their costs and benefits and the one or ones with the highest net benefits are chosen by the state for support. In this process, the state is transmogrified into an entrepreneurial entity, albeit still looking at which project might yield the greatest benefit to the entire nation via the main pathway: growth. Public sector reforms become a key demand, generating a new public management system in which neoclassical human capital theory guides both the recruitment of staff and assessment of staff performance. Accordingly, specific projects such as the training of staff could be considered an area of intervention, but only after it has been established to more than compensate for the costs incurred.

In the new mainstream economics, these strategies could be used to support infant industries, but in doing so these measures need to be combined. The goal is to reduce or remove market distortions. They come in various forms, from policy and price to consumption and wage distortions. As John Weiss (2020, p. 4) puts it:

In terms of supporting new activities, following the logic of the policy hierarchy import tariffs were perceived as an inferior means of promoting a new activity because they distorted consumer choice and created a bias against exports by raising the relative profitability of home-market sales. The most direct intervention would be a production subsidy financed by raising taxes in as non-distortionary a way as possible.

Thus, not only is industrial policy in mainstream economics seeking to address market failure (see also Cherif and Hasanov 2014), it is also trying to correct government failure (see also Cherif and Hasanov 2019). Just as important is mainstream theorising about oil. Its extraction, exhaustion, and emissions are centred on the calculus of markets. Both Harold Hotelling (1931) and Milton Friedman (1957) theorised about how to price oil competitively so that it is sustainably consumed and, crucially, they considered ways of making the income from resource extraction permanent or socially optimal by investing it in human or physical capital or in a wealth fund.

Therein rest the roots of mainstream theories of the state. Oriented towards addressing market and government failure (Pressman 2001; Sarbu 2014; Klimina 2018; Obeng-Odoom 2020, pp.127-132), these theories—including public choice versions—are based on the premise that the state is dominated by non-evolutionary, unchanging, self-interested, utility maximising individuals. As these individuals are likely to distort economic activities through rent-seeking (Krueger 1974), mainstream economics theorising is opposed to oil nationalisation, but proposes a behavioural libertarian paternalism on the supply side (Sunstein 1986; Thaler and Sunstein 2021). In this framework, what the state does is not to lead oil production itself, but rather to nudge transnational oil corporations to do so, to stimulate the private non-oil sectors, and to build human capital in areas other than oil (Cherif and Hasanov 2014, 2019).

Using local content policies framed in such a way that states are principals and international oil companies are agents, it is claimed that the TNC is a more effective government, seeking to deliver what the principal seeks: more indigenous involvement at all tiers of the oil industry, along with private-sector support of education. Oil TNCs are only price takers; not price givers. Oil pricing is considered complex, but it is ultimately subject to free market forces interplaying in oil and gas markets (see various contributions in Fattouh and Stern 2011). Oil TNCs are products of free competition. Earning market returns on their investment, these TNCs create neither monopoly nor oligopoly, contrary to the well-known contention by K.W. Rothschild (1947). If there are any imperfect market structures, then there is sufficient monopolistic competition (*The Economist* 2016, pp. 114-115; *The Economist* 2020c, pp. 93, 94, 98, 99). Also, oil TNCs are not only agents; they are also principals to local firms. In these principal-agent relationships, the only problem with oil is that it can be 'dirty', among other things because both extraction and consumption entail

too much emission, triggered largely by polluting technologies. The solution, then, is to remove subsidies, produce sustainably with green technologies, and price oil products in such a way that, combined with the increasing cost of production, some firms will be wiped out of the market (Rodrik 2014; *The Economist* 2019b, 2020b). Based on this calculus of supply, demand, cost, and clean production technology, it is expected that both resource companies and the state could help to train workers for a green and clean transition (Salazar-Xirinachs et al. 2014; Marais et al. 2021; Joshi and Agrawal 2021) from petrostates to electrostates (*The Economist* 2020b, pp. 18–20). The vision of mainstream economic theories about industrial policy is, therefore, to ensure growth, redistribution, and sustainability.

From these formulations, the following questions arise. (1) What are the essential features of the urban economic growth that arises from implementing the new mainstream economic theory of industrial policy? (2) How congruent are the claims of the new mainstream economic theory of industrial policy with empirical realities of trends in urban inequalities? (3) In what ways have the implementation of the new mainstream industrial policy shaped urban socio-ecological experiences?

Existing studies on industrial policy (e.g., Chang 2002, 2011; Ramizo Jr 2016; Fosu 2017) do not answer these questions, which are quite specific to the oil industry. There are many studies on oil, of course, but they ask different questions shaped by the resource curse theory, Dutch disease, social dysfunction, Anomie, rent-seeking, and neopatrimonialism (Obeng-Odoom 2014; Heilbrunn 2014; Andrews and Siakwah 2021). Where research examines industrial policy, as Charles Gore (2017) poignantly observed, the emphasises are usually on the nation-state rather than the subnational state or institutions of urban economies. A few focus on cities in the Global North, for example, Australia (e.g., Alexander and Gleeson 2020), Italy (e.g., Pellegrini et al. 2021), Canada (e.g., Cobban 2013; Joshi and Agrawal 2021), and the USA (e.g., Armstrong 2021). Largely framed as the antithesis of industrial policy in Africa (see, for example, Gollin et al. 2016; *The Economist* 2020a, 2021b), to simultaneously research oil cities and industrial policy has become oxymoronic. However, there are structural interlinkages that stretch across industrial policy, cities, and oil (Obeng-Odoom 2014; Fiave 2017; Almoghazy 2018). Hence, the rest of the paper tries to address the three questions, namely: (RQ1) What are the essential features of the urban economic growth that arises from implementing the new mainstream economic theory of industrial policy (Growth)? (RQ2) How congruent are the claims of the new mainstream economic theory of industrial policy with empirical realities of trends in urban inequalities (Distribution)? (RQ3) In what ways have the implementation of the new mainstream industrial policy shaped urban socio-ecological experiences (Sustainability)?

3 Researching Ghana

To avoid a broad-brush analysis, answering these questions requires a ‘limiting case’ (Ducheyne 2012). The trouble is that most of the states in Africa are regarded as weak: ‘In short, the potential for state-supported industrial transformation is much clearer in relatively robust SSA states, such as South Africa and Ghana, than in more

fragile states, such as Nigeria, Cote d'Ivoire, and Sudan' (Gisselquist 2017, p. 80). Of the stronger states, only Ghana is a petrol nation with vibrant oil cities, namely Sekondi-Takoradi, where industrial policy-making is actively pursued.

Ghana is appropriate for two other reasons. First, it is not a landlocked country, so choosing it as a 'limiting case' does not violate the mainstream and new institutional economics law that 'Being landlocked reduces growth by at least half a percentage point' (World Bank 2009, p. 101). With vibrant seaports, Ghana is, therefore, an appropriate case. Second, Ghana's industrial policy reflects the essence of mainstream industrial policy. Previous industrial policies inspired by W. Arthur Lewis's 1953 *Report on Industrialisation in the Gold Coast* (Lewis 1953) have been systematically researched, while recent forms of industrial policy-making that are inspired more by mainstream theorising have been carefully and extensively described (e.g., Ackah et al. 2016; Owoo and Page 2017; Whitfield 2018), but not contextualised, let alone evaluated, as a product of mainstream economic theorising.

Ghana's official industrial policy (Government of Ghana 2011) is comprehensive. Visions are broken down into objectives and prescriptions. Collectively, these policies endorse a model of development based on the extractivism of oil and other natural resources, 'To harness and fully utilise the mineral deposits available in the country in support of rapid industrial development' (Government of Ghana 2011, p. 6). The policy prescription is even more graphic: 'Government will encourage extensive exploitation of mineral deposits such as Limestone, Kaolin, Iron Ore, Clay, Salt, Aluminium Sulphate, Oil and Natural Gas' (Government of Ghana 2011, p. 6). But there will also be value added in many respects: job creation, indigenisation, and technical competence to support petrochemical industries, and multiple sources of energy. Diversification is important: 'Government will provide incentives to attract investments into non-agro raw material sector' (Government of Ghana 2011, p. 6). Industrial policy in Ghana is not a mere 'political roadmap' nor sheer 'political discourse' in the same way as political party manifestos whose nature in urban development policy-making is well-researched (Obeng-Odoom 2010). Rather, the country's industrial policy is a nation-wide compass to which diverse political parties which form the government at different times seek to implement. Founded at the time of the reign of the National Democratic Congress, the country's industrial policy is being implemented by the New Patriotic Party, which forms the current government. Within this framework, the Government of Ghana itself lists the specific programmes in its 2021 budget presented to the Parliament of Ghana:

Mr. Speaker, Government is implementing a comprehensive and wide ranging Industrial Transformation Programme with components geared towards making Ghana the new manufacturing hub in West Africa and Africa as a whole. The main components of the Programme are the One District One Factory Initiative, the Strategic Anchor Industries Initiative, the Industrial Parks and Special Economic Zones Initiative, the Micro Small and Medium Enterprises Programme, the Export Development and Diversification Programme and the Business Regulatory Reform Programme (Ministry of Finance 2021, p. 128).

Growth is central to this agenda, but also often mentioned are redistribution and sustainability. Specifically, the policy seeks to address spatial and urban inequalities

(Government of Ghana 2011, p. 4, see also pp. 5-6 on 'production and distribution'). While political party manifestos in Ghana could be described as 'political talk' or political 'roadmaps' for cities and the urban development process (Obeng-Odoom 2010), the country's industrial policy cannot be described as such. Systematic research (Overå 2017; Andrews and Siakwah 2021; Ablo 2022) demonstrates that the policy, along with actionable projects and programmes such as local content laws, has been and continues to be implemented. Outside academic scholarship, the trend about the implementation of new industrial policies across the world has been the focus of both editorialising and a 'special report' by the highly-influential newspaper, *The Economist* (see *The Economist* 2022, pp. 9-10, special report, pp. 3-12).

These global forces of change make Sekondi-Takoradi such an important 'limiting case'. Just as importantly, Sekondi and Takoradi are prominent port and twin oil cities in Africa as a whole. Located in the mineral-rich Western Region of Ghana, their experiences, documented elsewhere (e.g., Jeffries 1978; Ablo 2012, 2015, 2017; Ablo and Overå 2015; Obeng-Odoom 2014; Eduful and Hooper 2015; Fiave 2017; Denchie et al. 2020), could be systematically used to address the present paper's research questions. More fundamentally, while the broad context and contours of industrial policy in Ghana is national, the city is often viewed as a major industrial space, often described as 'the industrial and commercial hub of the Western region of Ghana' (Mensah et al. 2018, p. 9). As early as the twentieth century, 'The magnificent industrial and commercial progress' of Sekondi-Takoradi (Sekondi-Takoradi City Council 1963, p.2), which is part of Ghana's elite 'Golden Triangle', where most of the country's industries are concentrated (Yeboah and Waters 1997, p. 363), was the focus of much industrial policy-making.

Margaret Peil (1972, p. 9) notes that 'In 1967 there were about fifteen large firms manufacturing cigarettes, cocoa butter, paper products, minerals, furniture, household utensils, cement blocks, metal products and boats in addition to planks and veneers'. The Takoradi Harbour was historically designed, and has continued to serve, both the nation and the entire West African region (Plageman 2013; Fiave 2017). In terms of policy, the city authorities of Sekondi-Takoradi, the Sekondi-Takoradi Metropolitan Authority (STMA) and the city government, make industrialisation the city's highest priority (Sekondi-Takoradi Metropolitan Assembly 2014, p. 5). Relevant data, therefore, can be collected on Sekondi-Takoradi from the metropolitan information contained in documents such as the *City Spatial Plan, 2010-2013* (STMA 2010/11), the *Final Draft Medium -Term Development Plan, 2014-2017* (STMA 2014), and the *Second Local Action Plan, 2018-2020* (STMA 2018). Just as fundamental to the data pool on the twin cities is the information on the Takoradi Port, culled from *Ghana Ports Handbook, 2018-2019* (Ghana Ports and Harbours Authority 2018) and figures or facts from the Ministry of Works and Housing contained in the *Sector Strategic Medium Term Development Plan, 2018-2021* (Ministry of Works and Housing 2017). There are also various datasets from the Ghana Statistical Service (e.g., *The Population and Housing Census*) and the Ministry of Finance (e.g., various budget statements, Ministry of Finance 2017, 2018, 2019, 2021).

To analyse these data, it is crucial to examine the social production form (formal and informal economies and their interactions), investigate the changing structures

of production (emphasising industry, services, and agriculture), and study the spatial expression (urban economic growth, socio-spatial inequalities, and socio-spatial ecological problems) of the social production process (Andræ 1981). Unlike *Industry in Ghana: Production Form and Spatial Structure* (Andræ 1981), which centres on capital accumulation, however, my emphasis is land and its relation to labour and capital.

Applying this urban institutional economics (Markusen 1996) in the context of oil cities requires linking the local to the global, the past to the present, and the economy to the environment and to society, now and in the future. In this approach, industrial policy must be considered to be ‘embedded’, that is, it is evaluated in the political-economic context within which it has developed (Polanyi 1944; Groenewegen 2000). Yet, this embeddedness does not imply spatial fetishising by attributing to Sekondi-Takoradi total explanatory power without considering that urban economies are products of and, in turn, contribute to the national economic structure and how it interacts with the wider global system (Gore 2011). Instead, change is both institutional and evolutionary. As Richard Nelson and Sidney Winter (1982) famously noted:

The broader connotations of ‘evolutionary’ include a concern with processes of long-term and progressive change. The regularities observable in present reality are interpreted not as a solution to a static problem, but as the result that understandable dynamic processes have produced from known or plausibly conjectured conditions in the past—and also as features of the stage from which a quite different future will emerge by those same dynamic processes (Nelson and Winter 1982, p. 10).

Clearly, the emphasis here is on real-world behaviour of firms and transnational corporations over a long period of time. ‘In evolutionary theory, the ultimate discipline on the representation of firm behaviour is considered to be empirical’ (Nelson and Winter 1982, p. 410). Whether firms are profit-maximising, for example, is not to be taken as given, even if such propositions are considered as plausible (Nelson and Winter 1982, p. 410). ‘This viewpoint gives the study of firm behaviour *per se* a very different status in evolutionary theory from the one that it has in orthodoxy. The more we can learn about the way in which firms actually behave, the more we will be able to understand the laws of evolutionary development governing larger systems that involve many interacting firms in particular selection environments’ (Nelson and Winter 1982, p. 410). Accordingly, the causes of political-economic phenomena can be better explained as ‘cumulative change’, both global and local.

Such an approach helps to show that urban phenomena result from the interaction of local and global political-economic forces over time, mediated by the logic of the prevailing economic system (see, for example, Kapp 1950/1971; Waller 2017). As has been elaborately discussed in the literature (Meardon 2020; Harrison 2021), rent creation in this approach is analysed from an institutionalist-evolutionary-Georgist framework (for a detailed discussion of the nature of Georgist political economy specifically, see George 1898; Obeng-Odoom 2021); rather than mainstream economic rent-seeking analysis (see Krueger 1974) or even structuralist-Marxian (on a review and application of Marxian rent theorising, see Ouma 2020) theorising. The

state in this approach is regarded as ‘social’. This social state reflects the sentiments of the society in which it is planted and from which it germinates and flourishes. Richard Cantillon, the eminent economist, implies that, in this approach, the state is ‘a tree with its roots in the land’ (cited in Grove 1997, p. 271). As Frank Petrella (1984, p. 269) pointed out, in the idealised institutional environment, the Georgist state would need to do little, but in a context where there are absentee owners, systemic inequalities, and ecological problems, the state would need to be more active in addressing these problems by redressing the institutional drivers and forces that maintain these problems.

This approach has been endorsed both by orthodoxy and heterodoxy. For example, *The Economist* (2021c) has recently put the case for more evolutionary analysis as ‘why economics *should* be a more evolutionary science’ (italics added). For heterodoxy (see Markusen 1996; Murphy and Schindler 2011; Taylor and Derudder 2016; Scholvin et al. 2017), explicitly recognising that even local processes are part of global networks and chains, enhances the use of ‘limiting cases’ because such studies make it possible to reflect on global production networks as well as global value chains from a relatively small point in the chain or network of production. That cities in the Global South are vital members of such circuits is seen to be a particularly important feature of institutional and evolutionary political economy. For these reasons, and the need to assess an *evolving* industrial policy, this institutional and evolutionary approach is adopted for collecting and interpreting the data from Sekondi-Takoradi.

4 Results, analysis, and discussion

Following the structure of the new mainstream theory of industrial policy-making, I present the results of the empirical investigations in three subsections, looking respectively at growth, distribution, and sustainability. My analysis and discussion are organised under the three research questions (RQ1, RQ2, RQ3).

RQ1 (Growth): *What are the essential features of the urban economic growth that arises from implementing the new mainstream economic theory of industrial policy?*

Growth in the Sekondi-Takoradi urban economy has been volatile. Oil-related investments follow the vicissitude of oil prices. Figure 1 throws some light on these ups and downs.

One area where this volatile growth is felt is in the production of urban and regional space. Construction industries are more commonly involved in the production and reproduction of the built environment: building or repairing roads, property development, and dam construction. These activities are concentrated in the downstream sector of oil, but they can serve all sectors much like the accommodation and real estate industries, which become increasingly vibrant when oil prices are on the rise. But during downturns when prices are falling, housing rentals, real estate activities, and investment in the built environment all decline, too. That process has been empirically studied (see Issah 2021) for the 2014–2016 period when oil prices slumped. While during boom time, furnished four-bedroom upmarket houses rented for around \$4000 per month, during slump time, rental levels fell by 50 per cent,

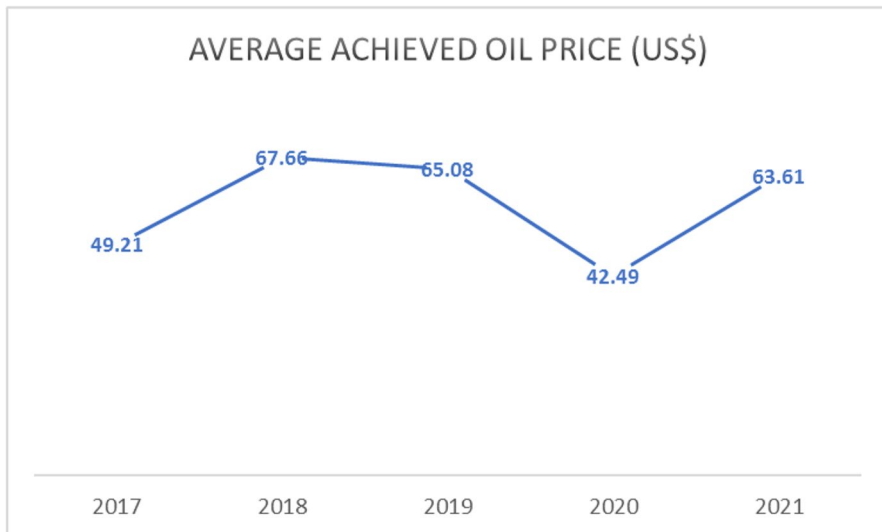


Fig. 1 Trends in Average Oil Prices in Ghana, 2017–2021. Source: Adapted from Public Interest and Accountability Committee (PIAC), 2021, p. 16

sometimes even more. The least declines were 30 per cent during the slump (Issah 2021). In general, vacancy rates also increased during the slump (Issah 2021). However, oil prices have begun to rise again, as Fig. 1 shows, and, with it, urban real estate markets can become vibrant again.

In general, compared to pre-2007, when the city did not have the benefit of oil revenues, data from the Ghana Ports and Harbours Authority show that Sekondi-Takoradi increasingly earns more income through export of crude oil. ‘Before 2007 the [Takoradi] port was receiving between 500 and 600 commercial ship calls a year. Following the discovery, however, the annual figure for ship calls went up from 594 in 2007 to 1,626 in 2017. As a percentage of total ship calls, the proportion of OSV [offshore supply vessel] calls has risen from 11 per cent in 2007 to 54 per cent in 2017 with the highest figure—1,798 or 65 per cent—being recorded in 2011. Statistics show that, since 2009, over half of all vessel calls at Takoradi have been OSVs’ (Ghana Ports and Harbours Authority 2018, p. 58). Table 1 provides more systematic data to make the point.

Not only does Sekondi-Takoradi earn money from export of its oil, the city also retains money by creating industrial jobs locally. As Table 2 shows, the share of people in Sekondi-Takoradi who are in industrial employment has increased over the years. From only 25 per cent in 1960, about 30 per cent of the male adult population were employed in industry in 2010.

Several caveats about the data in Table 2 need to be raised. The specific contribution of the oil industry to the total industrial employment share is not available for the period under discussion. The official statistical agency does not provide these granular data for 1960–2010. Also, only proportionately few of these jobs are formal. The remaining 69.3 per cent of people are employed in informal economies (STMA

Table 1 Oil Export in Sekondi-Takoradi, 2007–2017

Year	Commercial Vessels	Offshore Oil and Gas Vessels	Total Vessel Call	Offshore Oil and Gas Vessels as a Percentage of Total Vessel Call
2007	527	67	594	11
2008	486	129	615	21
2009	481	475	956	50
2010	558	719	1,277	56
2011	623	1,175	1,798	65
2012	611	1,053	1,664	63
2013	606	758	1,364	56
2014	543	844	1,387	61
2015	615	910	1,525	60
2016	673	928	1,601	58
2017	742	884	1,626	54
Overall Totals	6,465	7,942	14,407	55

Adapted from Ghana Ports and Harbours Authority 2018, p. 56

Table 2 Industrial Employment (percentage) in Sekondi-Takoradi, 1960–2010***

	1960*		2010**	
	Ghana	Sekondi-Takoradi	Ghana	Sekondi-Takoradi
Industry	15	25.4****	17.4 (15.4)	29.8 (24.1)
Service	22	68.0	37.1 (43.0)	62.8 (70.0)
Agriculture	63	7.0	45.5 (41.6)	7.4 (5.9)

1960 Census cited in Peil 1972, p. 12; Ghana Statistical Service 2014, p. 42

*Percentages refer to only the adult male labour force **Percentages in brackets refer to both the male and female adult male labour force, while the percentages outside the brackets refer to only the adult male labour force. ***Following statistical conventions in Ghana, industry is made up of 'Mining and quarrying, manufacturing, electricity, water and sewerage, and construction' (Institute of Statistical, Social and Economic Research 2012, p. 14). Thus I summed up the percentages for these industries. Agriculture is sometimes coupled with fishing or, as in 1960, is simply described as 'farmers, fishermen' (see Peil 1972, p. 42). What remains after deducting services and industry from 100% is services. In the 1960 Census report, I classified 'labourers and longshoremen' as 'services', but 'craftsmen and production process workers' as 'industry'. ****The share of miners and quarrymen is presented in the 1960 census, as cited in Peil 1972, p. 12 as 'less than 0.5 per cent'. I adopted 0.4 per cent.

2014). However, these are dynamic economic concerns. They are also diverse. In addition to long-established industries such as Takoradi Flour Mills, Samartex Timber and Plywood Company Limited (formerly African Timber & Plywood Company), Ghana Cement Works Ltd (GHACEM) and, until recently, British American Tobacco (formerly Pioneer Tobacco Company Ltd.), many new industries have been formed. Using Revision 4 of the International Standard Industrial Classification (UN Economic and Social Affairs 2008), these industries can be classified as manufacturing, transportation, construction, and real estate activities, as Table 3 shows.

Table 3 New Industries in Sekondi-Takoradi

Industry	Sectoral Concentration	Activities
Manufacturing	Upstream	Fabrication of steel structures, machinery installation, blasting sand, and casting. Piping, rigs alignment positioning services, GIS application and mineral tenure survey, subsea and offshore products, and subsea engineering solution.
Transportation and Storage	Midstream	Freight forwarding, shipping services, logistics services.
Construction	Downstream	Engineering works, constructing roads, houses and other types of buildings. Repairs are also included as are additions.
Accommodation and Food Services	All sectors	Hospitality activities, including the provision of hotel and guest house facilities
Real Estate Activities	Midstream and Downstream	Buying, renting, selling of properties, property management, and the development of malls and shops

Obeng-Odoom 2014; Ablo 2012, 2015, 2017; Ablo and Overå 2015

Some manufacturing industries make steel structures, while others provide engineering services for rigs. These manufactures tend to be geared to the upstream sector, while the transportation industry, typified by freight works, tends to serve the midstream sector.

Apart from the oil companies themselves which export crude oil and, hence, can be regarded as basic industries, the rest of the industries are mostly non-basic. However, the non-basic industries are not unnecessary. As Ann Markusen (2006) has noted in another context, such industries enable basic industries to flourish. This support is evident in the development of industrial clusters or what Wolfram Elsner (2000, p.413) has defined as ‘groups of firms which are functionally interconnected (vertically as well as horizontally), including manufacturing and services, plus related ... infrastructures and public, semi-public, and social agents financing and/or running them’.

The Takoradi Oilfield Centre is a prime example of the importance of cluster formation. Drilling companies such as Tullow Ghana are located alongside tool making and machine repairing companies such as Oceaneering and Oilfield Machine. As far back as 1953, Arthur Lewis itemised the advantage of such clusters: ‘the economies which result from having factories close together. The cost of supplying all public services is reduced—water, electricity, railway facilities, and so on. A general engineering service is more easily provided. The sale to each other of by-products and of components is more easily organised. A labour market develops. It is much easier to create the framework required for industrialisation if factories are together than if they are scattered all over the place’ (Lewis 1953, p. 18).

More recent research (McDade and Malecki 1996) shows that, in such clusters in Ghana, tools and equipment are shared, sometimes workers are loaned, work is sub-contracted and, through social interactions, there is much information and knowledge sharing. These economies spill over to the wider urban economy. Based on a survey of over 500 manufacturing firms in Ghana (Fu et al. 2018), we know that such agglomeration economies drive urban economic growth, which goes hand in hand with national economic growth. As Ann Markusen (2006) shows in a different context, such non-basic industries are also growth-enhancing because they are import-substituting. They prevent resources within the urban economy from leaking outside. Integrated within global production networks and value chains, these clusters contribute to, but also benefit from, such local and global processes (Pietrobelli and Rabellotti 2011; Murphy and Schindler 2011; Barrientos et al. 2016). Evidence from Chinese industries operating in Africa shows that, in 2017, they earned 93 per cent of their revenues from local and regional sales (*The Economist* 2020a, pp.23-24). So, incomes from import-substituting industrial production are substantial. Clearly, African urban economies are quite vibrant.

Whether the workers in these industries are satisfied is a different question. Conceptually, job satisfaction ‘is expressed in positive and negative comments on their jobs, in their attitudes towards supervisors, their willingness to remain on the job, and their selection of various occupations as preferable to their own’ as well as ‘the extent to which pay is a focus of discontent’ (Peil 1972, p. 82). Orthodox economists claim that self-employed workers are increasingly becoming satisfied (for a review, see Henley 2021). For example, to the question, ‘all

things considered, how satisfied are you with your current work?', the responses of at least 311 self-employed workers in Ghana showed a marginal increase of satisfaction from an average of 3.36 (2004–2006) to an average of 3.37 between 2009 and 2011 on a 5-point scale (Falco and Haywood 2016, pp.250, 255). In addition, both return on capital and return on human capital are increasing among the self-employed. On these bases, the claim is often made that workers in self-employment in Ghana are satisfied with their conditions of work, indeed more satisfied than those in waged employment whose levels of satisfaction over the same period of time (2004–2011) for the study declined from 3.45 to 3.26 (Falco and Haywood 2016).

However, these conclusions are questionable. The posited duality between waged employment and self-employment is too rigid. In Ghana's hybrid urban economy (see, for example, Hart 1973; Anyidoho and Steel 2016), those in self-employment are simultaneously engaged in waged employment. Furthermore, waged employment in the private sector covers a vast array of employment types: temporary, contractual, and permanent. Finally, evidence from long-term, systematic interviews with Ghanaian factory waged workers employed in the public sector (Peil 1972) show widespread satisfaction among the workers, while Austin Ablo's (2012, 2017, 2018) interviews with oil self-employed and waged workers show that the jobs created as a result of the implementation of industrial policy are insecure, temporary, and unsatisfying. Most Sekondi-Takoradi and other Ghanaian workers hold entry level jobs. When employed in larger TNCs, Sekondi-Takoradi and other Ghanaian workers with similar or higher levels of experience and education are paid much less than expatriates with similar or lower levels of expertise and experience. Job progression is stalled for Ghanaians, but expedited for expatriates. Insurance offered for local staff is much less than what is paid when expatriates are injured on the job and Black women are concentrated in sectors of industry with limited opportunities for progress.

RQ 2 (Distribution): How congruent are the claims of the new mainstream economic theory of industrial policy with the empirical realities of trends in urban inequalities?

In addition to these problems of growth, there are major concerns about socio-spatial inequalities. Compared to the three most industrialised metropolises in Ghana, the Sekondi-Takoradi Metropolis is the most unequal. As of 2015, the Gini-coefficient reported by the Ghana Statistical Service (2015) of STMA was 43.1, much higher than the average in the Western Region (41.2), in which STMA is located, and higher than the inequalities that pertained in the Accra Metropolitan Area (Gini Coefficient = 35.4) and the Kumasi Metropolis (Gini Coefficient = 33.9).

Social class analysis of Sekondi-Takoradi tended to classify the city as uniformly 'working class'. This was the case, for instance, when Richard Jeffries (1978) conducted his ground-breaking study of activism and railwaymen workers. More recent evidence, however, seems to show that Sekondi-Takoradi remains a working-class city, but not uniformly so. Class fragmentation has taken place over the years. Using income as one proxy of class position, according to the city authorities (STMA 2014,

Table 4 Types and Levels of Profitability: Tullow Oil Plc, 2014–2018

Type of Profit	2018	2017	2016	2015	2014
Gross Profit	1,081.6	815.3	546.9	591.3	1,096.2
Operating Profit	528.4	22.4	(754.7)	(1,093.7)	(1,964.6)
Profit/(loss from continuing activities before tax)	260.5	(285.9)	(908.3)	(1,297.3)	(2,047.4)
Profit/ (loss for the year from continuing activities)	85.4	(175.3)	(597.3)	(1,036.9)	(1,639.9)

Tullow Oil Plc 2018 (p. 129)

p. 62), working- or lower-class residents dominate the employment structure in the city. Some 52 per cent earn between \$0/ GhC0 and \$84/GhC499 per month. Four per cent of the population in Sekondi-Takoradi earn \$250/ GhC1,500 or more per month, making them higher class residents. The middle class in Sekondi-Takoradi is made up of some 44 per cent of the population, who earn between \$83/GhC500 and \$249.85/GhC1,499 per month.

It is difficult to explain these urban-economic patterns. The classic Dutch Disease theory (see, for example, Corden and Neary 1982) focuses on oil, growth, and deindustrialisation; not distribution, class formation or fractions. New explanations are needed to link class differences to the emerging employment structure. Oil executives and large property owners are more likely to be in the higher income groups, while industrial and oil workers are more likely to be in the middle classes of the city. The lower classes tend to be service workers, including waste pickers in the informal economy, dominated by migrant waste workers. Although such waste pickers ‘could make \$58.5 a day, if many people visited the guest house, and drank many bottles of water, and other cleaners were not interested or around to compete for the plastic waste’ (Obeng-Odoom 2014, p. 131), their income is unstable and uncertain.

The real beneficiaries of the windfall in Sekondi-Takoradi are, however, the TNCs and their absentee and alien owners of oil. They have increased their incomes, wealth and power. Other than in the small oil and new oil sites in Kenya and Uganda, especially where the industry is yet to fully take off (for analyses of oil drilling and urban development in Kenya and Uganda, see Serenkuma and Serwajja 2022; Holterman 2014; Hickey and Izama 2017; Enns and Bersaglio 2016), the oil business was quite profitable between 2014–2018, as Table 4 shows.

Also, as Table 5 suggests, revenue from sales in Ghana nearly doubled between 2016 and 2018. Alongside this increase, Tullow Oil’s ‘total’ sales revenue and total value of non-current assets increased substantially across Africa.

Determining the causes of the gains in incomes and wealth is important not only for sociological reasons, but also because it can enable a political-economic analysis of whether the TNCs constitute a rentier class with considerable power over both pricing and market structures. Leading scholars such as K. W. Rothschild (1947),

Table 5 Sales Revenues and Wealth of Tullow Oil in Africa, 2016–2018

Origin of Investment	Sales Revenue (\$m)			Non-Current Assets (\$m)		
	2018	2017	2016	2018	2017	2016
Congo	1.1	8.8	22.8	-	-	-
Cote d'Ivoire	44.9	42.3	61.3	86.7	74.5	108.6
Equatorial Guinea	146.6	92.2	141.4	72.2	134.7	166.1
Gabon	213.6	251.8	241.2	171.1	161.9	206.0
Ghana	1,404.1	1,196.1	666.6	5,171.5	5,675.1	5,188.8
Mauritania	2.1	13.8	23.9	-	-	-
Kenya	-	-	-	-	1,064.8	936.9
Uganda	-	-	-	-	574.4	489.1
Total	1,812.4	1,605	1,157.2	5,501.5	7,685.4	7,095.5

Adapted from Tullow Oil Plc [2017](#) (p. 129); [2018](#) (p. 129)

Ben Fine ([1982](#)), C. N. Nwoke ([1984a, b, 1986](#)), and Cyra Bina ([1992](#)) have long suggested so, but it is unclear how the TNCs see themselves.

Tullow has invested in its operations, but in explaining its success to its shareholders, it ascribes its success to rents or what it calls 'high-return producing assets in Ghana', to 'low-cost, long-life oil producing assets in Ghana', or simply to 'low-cost productions assets in Ghana' (Tullow Oil [2017](#), pp. 10, 11, 16). Such rents have led to what Tullow calls a 'free cash flow' of \$543 million, recalling Henry George's ([1879/1935](#), pp. 118, 125, 128) concept of 'absentee and alien landlord' of oil in Ghana.

These rents arise in many ways (Obeng-Odoom [2014](#)). They usually come from the quality grade of oil in Ghana, from activities such as the investments of the state in road production and maintenance as well as political stability, and from the contribution of workers. The sacrifices of ordinary people also transfer economic rents to TNCs, especially when these ordinary people are compelled to give up their livelihoods to create a conducive environment for oil drilling. Economic rents might also arise from the very low royalties (5 per cent compared with the global average of 7 per cent) that TNCs are required to pay in Ghana. Most fundamentally, these rents are extracted because of the power held by the Transnational Corporations and their absentee owners.

The structure of the oil industry and the identities of the Oil TNCs are documented (Obeng-Odoom [2019](#), pp. 119–123): In the upstream of the oil industry, these Oil TNCs are Tullow Ghana Ltd, headquartered in London and Dublin in the UK. Another oil TNC is Kosmos, a US-based company headquartered in Texas. A third is Anadarko, also headquartered in Texas, USA. A fourth is PetroSA, a South African company which is much smaller than the UK and the US TNCs which control more than 80 per cent of the shares in Ghana's biggest oil field, Jubilee. The midstream of the industry is also dominated by transnational oil companies like US TNC, Chevron, and the British oil major, Shell, both of which have much larger combined shares than the total shares of the West African countries, including

Ghana, which supposedly own the West African Gas Pipeline. Finally, in the downstream industry of oil marketing companies which sell oil and gas products, again, Shell and Total dominate the industry with more than 70 per cent combined market share. These TNCs are not simply profit-seeking, nor merely controlling market share, they and their absentee shareholders, control the city, including metropolitan development plans, the urban form, and the urban society, economy, and environment.

The spatial expression of these inequalities is quite visible in the property market. The top income classes are the propertied groups who live in spatial enclaves such as the Takoradi Oil Village, linked to other parts of the city and elsewhere with helipads and luxury cars. The middle-income groups live in more modest neighbourhood areas. First-class areas such as Beach Road are inhabited by the professional classes, whereas the lower classes live in Tanokrom, in the fringes of the middle-income areas (e.g., Obeng-Odoom 2014; Eduful and Hooper 2015; Oteng-Ababio 2018; Yankson et al. 2017). Such socio-spatial inequalities do not only exist within Sekondi-Takoradi. They also define the relationships between cities. Secondary cities try to mimic capital cities. Peri-urban neighbourhoods are strongly moulded by urban dynamics and regional capitals tend to be influenced by national capitals. Accra, the capital city of Ghana, for example, has become a controlling spatial point extracting rent produced in Sekondi-Takoradi (Oteng-Ababio 2018). The value chain is even longer, stretching not only from Sekondi-Takoradi to Accra, but also beyond to other industrialised and financialised cities in the world (Chalfin 2019). These socio-spatial inequalities create new forces of uneven and unequal relations.

RQ 3 (Sustainability): *In what ways have the implementation of the new mainstream industrial policy shaped urban socio-ecological experiences?*

These inequalities can also be seen in ways in which industrial policies have shaped spatio-social and -ecological experiences. The spillage of oil into streams and the environment during oil extraction is commonly raised by researchers (e.g., Amewu-Attah 2018). Generally, ‘extraction accounts for only a small fraction of emissions associated with each barrel of oil; 70-80% occur when the customer burns it’ (*The Economist* 2019a, p. 9), often in cities. Emissions from car dependence are substantial in Sekondi-Takoradi. The poor, who are forced to live in the outskirts, are faced with higher transport costs as a result. They also incur higher costs of waste disposal because communities such as Mpintsin have been turned into dump sites where metropolitan waste—including nonbiodegradable plastic waste—is discarded (Obeng-Odoom 2014). Members of the wealthy transnational group who escape to wealthy suburbs (e.g., Takoradi Oil Village) or to wealthy cities (e.g., Accra and Abidjan) drive luxury cars or fly first class in airplanes across much longer distances and, hence, end up emitting more carbon dioxide per head. Their waste is collected and kept away from them. Sociologically, this problem is likely to worsen, as the wealthy compete with each other and strive to set themselves apart from the rest, generating clearly unsustainable affluent lifestyles.

Table 6 Land Use Changes in Sekondi-Takoradi, 2008–2018

Land Use	Area in 2008 (km ²)	Area in 2018 (km ²)	Percentage Change (%), 2008-2018
Water	5.71	5.19	-9.11
Vegetation	130.77	108.82	-16.79
Settlement	24.73	53.85	+117.75
Bare Land	13.07	6.43	-50.80

Adapted from Biney and Boakye 2021, Table 3, p. 5

Petroleum is also spilt at the pump station in Sekondi-Takoradi, often triggering major explosions with serious consequences in terms of loss of plant and animal lives as well as loss of biodiversity. Much has also been lost by society as a result of these petroleum accidents. In 2017, nearly 200 people suffered serious injuries from explosions and, between 2014 and 2017—a period of only three years—there were 8 major gas explosions (Abdul-Hamid 2017). The fumes from cars—the number of which is growing in the city—is another source of environmental pollution. This is a problem throughout the world, but particularly so in Ghana. Research (Public Eye 2016, p. 5) has shown that the imported fuel from TNCs, sold by TNCs, and distributed by TNCs is of poor grade. Indeed, 80 per cent of the diesel sold in the city and the entire urban system in Ghana is 100 times more poisonous than that sold in Europe. It follows that, for Sekondi-Takoradi, where the rate of motorisation is particularly fast (about 9,000 motor vehicles were registered in 18 months in the 2011-2012 period alone, Obeng-Odoom 2015), the speed of environmental pollution must also be particularly troubling. All these are quite well anticipated by mainstream economic theorising on industrial policy and green growth (see, for example, Rodrik 2014). The concern for such economists is usually about cleaning and greening ‘dirty oil’.

However, mainstream economic theorising does not sufficiently anticipate the loss of green spaces and how that imperils some of the cornerstones of the urban economy. Farmlands, wetlands, forests, and gardens are rapidly being depleted in this process of industrial transformation. Over 3,000 hectares of green spaces have so far been removed to benefit the oil industry and industrialisation more broadly (Mensah et al. 2018). The expansion of the Takoradi Port has encroached on 53,000 hectares of land previously utilised by fishers and farmers (Fiave 2017, p. 73). A team of researchers (Acheampong et al. 2018), using multi-temporal satellite images and geographic information systems, reached similar conclusions, noting ominously that ‘[t]his has led to a significant reduction in agricultural lands and an almost complete obliteration of standing forest’ (Acheampong et al. 2018, p. 373). As shown in Table 6, bare land, between 2008 and 2018, decreased by more than 50 per cent, but the built environment has expanded by more than 100 per cent. Thus, land is becoming both more extensively and more intensively utilised.

According to Biney and Boakye (2021, p. 8), the rate of change in the built environment has also been much faster: from 2.95 in the 1991-2002 period and 7.58 in the 2002-2008 period, to 16.67 in the 2008-2018 period. This expansion of the built

environment is at the expense of the natural environment and, hence, undermines the symbiotic relationship between the economy and the environment. This pattern of urban development also questions the mainstream theory of industrial policy centred on addressing the problem of ‘dirty oil’ by developing ‘green growth’, often narrowly understood as powering growth with clean energy. Further, this pattern of urban development undermines the urban economic structure (see Vogel 1998). The spaces of production of the urban informal economy—urban agriculture, informal local engineering enclaves, and informal trading—which for years provided the source of livelihood for 69.3 per cent of the residents in Sekondi-Takoradi (Ghana Statistical Service 2014)—are gradually being destroyed.

Urban farmers have lost their land and fishers, when interviewed, report declining fish harvests (Obeng-Odoom 2014; Amewu-Attah 2018; Amiteye 2015). The structure of the urban economy is now becoming even more geared towards big capital. It is in this context that the proposed construction of the 65-million-dollar Takoradi Mall ought to be understood. As research (Fiave 2017) shows, the site for the proposed mall was occupied by over 500 structures that belonged to over 2,000 car mechanics, but the private property developer, supported by the city and authorities, demolished these structures to take over the site. This change in socio-spatial relations from socially embedded enterprises to malls could be more broadly understood within Henry George’s (1879/1935, pp. 118, 125, 128) notion of ‘absentee and alien landlord’, another dynamic of how industrial policy could promote growth, divide society, and undermine sustainability.

5 Conclusion: oil cities of the future

Long despised by mainstream economists, industrial policy has obtained a new burst of life. The nature of this new theory necessitates explanation and its claims require empirical verification. Specifically, this paper has tried to answer three critical questions for which answers are not readily available in the literature. (1) What are the essential features of the urban economic growth that arises from implementing the new mainstream economic theory of industrial policy? (2) How congruent are the claims of the new mainstream economic theory of industrial policy with empirical realities of trends in urban inequalities? (3) In what ways have the implementation of the new mainstream industrial policy shaped urban socio-ecological experiences?

This paper has addressed these questions, first, by clarifying the nature of the new mainstream theory of industrial policy (*Theoretical Claims*), explaining the research approach (*Researching Ghana*), and reflecting on the results (*Results*). The evidence clearly shows that, to date, growth-centred industrial policy has not generated the expected ecologically sensitive and inclusive (urban) economic development. Growth has changed the urban economic structure (Table 2), but urban economic development is still informal and workers are quite dissatisfied, whether self-employed or in paid employment in the TNCs. Sekondi-Takoradi is becoming more unequal and the socio-ecology of the city is degrading. The new mainstream economic theory of industrial policy has, in effect, spruced up the resources of the city and transformed them, but mainly for what Henry George (1879/1935, pp. 118, 125, 128) called ‘absentee and alien landlord’ specifically, often at the expense of the environment.

As the experience appears consistent with other studies in Africa (see, for example, Tables 4 and 5, but also Murphy and Carmody 2015), these failings are likely to be more structural and integral to the theory, rather than arising from the policy implementation failure. Also, as K. W. Rothschild's (1947) famously showed in his theoretical intervention, in the real world, TNC activities on pricing, market structures, and rents defy explanations by both perfect competition and monopolistic competition. Their activities, in relation to categories in price theory, can more accurately be described as oligopolic, with considerable power in terms of price-shaping, market reconstruction, and rent theft. Of course, for Georgist economists, all these fundamental contradictions reflect 'the social problem of monopoly' (Cobb 2019), understood in its broader, historical and political-economic terms. It might, therefore, be argued that a different industrial policy that could recoup socially-created, but privately appropriated, unearned income, is needed. Such a policy would need to guide the reinvestment of the resulting income in ways that would enhance state capacity, address persistent inequalities and social stratification and create industries that would avoid the problems discussed in the results section. But the analysis of such an alternative must be left for another time.

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References

- Abdul-Hamid M (2017) New Government Regulatory Measures, Following Gas Explosion at Atomic Junction. Reported on the official presidential website, October 12
- Ablo AD (2012) 'Manning the rigs: A study of offshore employment in Ghana's oil industry', Mphil thesis submitted to the Department of Geography, University of Bergen, Norway
- Ablo AD (2015) Local content and participation in Ghana's oil and gas industry: Can enterprise development make a difference? *Extract Ind Soc*. <https://doi.org/10.1016/j.exis.2015.02.003>

- Ablo AD (2017) The micro-mechanisms of power in local content requirements and their constraints on Ghanaian SMEs in the oil and gas sector. *Norwegian J Geogr.* <https://doi.org/10.1080/00291951.2017.1299213>
- Ablo AD (2018) Scale, local content and the challenges of Ghanaian employment in the oil and gas industry. *Geoforum* 96:181–189
- Ablo AD (2022) Carceral labour: offshore work relations, conflicts and local participation in Ghana's oil and gas industry. *Polit Geogr* 93(102556)
- Ablo AD, Overå R (2015) Networks, trust and capital mobilization: challenges of embedded local entrepreneurial activities in Ghana's oil and gas industry. *J Mod Afr Stud* 53(3):391–413
- Acheampong M, Yu Q, Deba L, Enomah, Anchang J, Eduful M (2018) Land use/cover change in Ghana's oil city: assessing the impact of neoliberal economic policies and implications for sustainable development goal number one – a remote sensing and GIS approach. *Land Use Policy* 73:373–384
- Ackah C, Adjasi C, Turkson F (2016) Industrial Policy in Ghana: Its Evolution and Impact. In: Newman C, Page J, Rand J, Shimeles A, Söderbom M, Tarp F (eds) *Manufacturing transformation: comparative studies of industrial development in Africa and Emerging Asia*, pp 1–32
- Aiginger K, Rodrik D (2020) Rebirth of Industrial Policy and an Agenda for the Twenty-First Century. *J Ind Compet Trade* 20:189–207
- Alexander S, Gleeson B (2020) Suburban practices of energy descent. *Am J Econ Sociol* 79(3):907–940
- Almoghazy A (2018) 'Petroleum cities: a case study of Ras Gharib', Presented in partial fulfillment of the requirements of the Master of Science Degree in Urban Development from the Technical University of Berlin Campus El Gouna, Berlin
- Amewu-Attah A (2018) The impact of oil exploitation on a Ghanaian fishing community. This thesis is submitted to Cardiff University in fulfilment of the requirements for the degree of PhD, School of Social Science
- Amiteye J (2015) 'The Proposed Re-development of the Takoradi Market Circle and its likely Implications for Market Traders' Access to Trading Space', Department of Geography University of Bergen, Norway Spring
- Amsden AH (1989) *Asia's next giant: South Korea and late industrialization*. Oxford University Press, Oxford and New York
- Andræ G (1981) *Industry in Ghana: Production form and spatial structure*. Scandinavian Institute of African Studies and the University of Stockholm, Stockholm
- Andrews N, Siakwah P (2021) *Oil and development in Ghana: beyond the resource curse*. Routledge, London
- Anyidoho NA, Steel WF (2016) Informal-formal linkages in market and street trading in Accra. *Afr Rev Econ Financ* 8(2):171–200
- Armstrong B (2021) Industrial policy and local economic transformation: evidence from the US Rust Belt. *Econ Dev* 35(3):181–196
- Barrientos S, Gereffi G, Pickles J (2016) New dynamics of upgrading in global value chains: Shifting terrain for suppliers and workers in the global south. *Environ Plan A* 48(7):1214–1219
- Bina C (1992) The law of economic rent and property: applied to the oil industry. *Am J Econ Sociol* 50(2):187–203
- Biney E, Boakye E (2021) Urban sprawl and its impact on land use land cover dynamics of Sekondi-Takoradi metropolitan assembly Ghana. *Environ Challenge* 4(100168):1–10
- Chalfin B (2019) On-shore, off-shore Takoradi: Terraqueous urbanism, logistics, and oil governance in Ghana. *Environ Plan D Soc Space* 37(5):814–832
- Chang H-J (2002) *Kicking away the ladder – development strategy in historical perspective*. Anthem Press, London
- Chang H-J (2011) Institutions and economic development: theory, policy, and history. *J Inst Econ* 7(4)
- Cherif R, Hasanov F (2014) Soaring of the Gulf Falcons: diversification in the GCC oil exporters in seven propositions. IMF
- Cherif R, Hasanov F (2019) *The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy*. IMF, WP/19/74
- Cimoli M, Dosi G, Yu X (2020) Industrial policies, patterns of learning, and development: an evolutionary perspective. In: Oqubay A, Cramer C, Chang H-J, Kozul-Wright R (eds) *The Oxford handbook of industrial policy*
- Cobb CW (2019) Editor's introduction: the social problem of monopoly. *Am J Econ Sociol* 78(5):1043–1069

- Cobban TW (2013) *Cities of oil: Municipalities and petroleum manufacturing in Southern Ontario, 1860 – 1960*. University of Toronto Press, Toronto
- Corden MW, Neary JP (1982) Booming sector and de-industrialisation in a small open economy. *Econ J* 92(368):825–848
- Denchie EO, Ablo AD, Overå R (2020) Land governance and access dynamics in Sekondi-Takoradi, Ghana. *Afr Geogr Rev*:1–14. <https://doi.org/10.1080/19376812.2020.1831560>
- Ducheyne S (2012) Scientific representations as limiting cases. *Erkenntnis* 76(1):73–89
- Eder J, Schneider É, Kulke R, König C-D (2018) From mainstream to progressive industrial policy. *Austr J Dev Stud* 34(3/4):4–14
- Eduful A, Hooper M (2015) Urban impacts of resource booms: the emergence of oil-led Gentrification in Sekondi-Takoradi, Ghana. *Urban Forum* 26:283–302
- Elsner W (2000) An industrial policy agenda 2000 and beyond – experience, theory, and policy. In: Elsner W, Groenewegen J (eds) *Industrial policies after 2000*. Springer, Netherlands, pp 1–22
- Enns C, Bersaglio B (2016) Pastoralism in the time of oil: youth perspectives on the oil industry and the future of pastoralism in Turkana, Kenya. *Extract Ind Soc* 3(1):160–170
- Ewusi K (1981) *The process of industrialisation in Ghana, the institute of statistical. Social and Economic Research*, Accra
- Falco P, Haywood L (2016) Entrepreneurship versus joblessness: explaining the rise in self-employment. *J Dev* 118:245–265
- Fattouh B, Stern JP (eds). (2011) *Natural gas markets in the Middle East and North Africa*, Oxford University Press, Oxford
- Fiafe R (2017) Sekondi-Takoradi as an oil city. *Geogr Res Forum* 37:61–79
- Fine B (1982) Landed property and the distinction between royalty and rent. *Land Econ* 58(3):338–350
- Fosu A (2017) Oil and Ghana's Economy. In: Aryeetey E, Kanpur R (eds) *The economy of Ghana sixty years after independence*. Oxford University Press, Oxford, pp 137–154
- Friedman M (1957) *A theory of the consumption function*. Princeton University Press, Princeton
- Fu X, Mohnen P, Zanello G (2018) Innovation and productivity in formal and informal firms in Ghana. *Technol Forecast Soc Chang* 131:315–325
- George H (1879/1935) *Progress and Poverty, The Fiftieth Anniversary edition*. Robert Schalkenbach Foundation, New York
- George H (1898) *The science of political economy*. Kegan Paul, Trench, Trubner and Co, London
- Ghana Ports and Harbours Authority (2018) *Ghana Ports Handbook, 2018 -2019*. Ghana Ports and Harbours Authority, Sekondi and Tema
- Ghana Statistical Service (GSS) (2014) *2010 Population and Housing Census: District Analytical Report, Sekondi-Takoradi Metropolitan*. GSS, Accra
- Ghana Statistical Service (GSS) (2015) *Ghana poverty mapping report*. GSS, Accra
- Gisselquist RM (2017) State capability and prospects for close coordination: Considerations for industrial policy in Africa. In: Page J, Tarp F (eds) *The practice of industrial policy: government-business coordination in Africa and East Asia*. Oxford University Press, Oxford, pp 80–100
- Gollin D, Jedwab R, Vollrath D (2016) Urbanization with and without industrialization. *J Econ Growth* 21:35–70
- Gore C (2011) *Regions in question: space, development theory and regional policy*, Routledge, London
- Gore C (2017) Late industrialisation, urbanisation and the middle-income trap: an analytical approach and the case of Vietnam. *Camb J Reg Econ Soc* 10(1):35–57
- Government of Ghana (2011) *Industrial policy*. Government of Ghana, Accra
- Groenewegen J (2000) Industrialisation: Industrial policy; theories, and instruments. In: Elsner W, Groenewegen J (eds) *Industrial policies after 2000*. Springer, Netherlands, pp 1–22
- Grove RH (1997) *Green imperialism: colonial expansion, tropical Island Edens and the origins of environmentalism, 1600-1860*. Cambridge University Press, Cambridge
- Harrison F (2021) *# We Are Rent: Book 1 – Capitalism, Cannibalism, and How We Must Outlaw Free Riding*. Land Research Trust, London
- Hart K (1973) Informal income opportunities and urban employment in Ghana. *J Mod Afr Stud* 11(1):61–89
- Heilbrunn JR (2014) *Oil, democracy, and development in Africa*. Cambridge University Press, New York
- Henley A (2021) The rise of self-employment in the UK: entrepreneurial transmission or declining job quality? *Camb J Econ* 45(3):457–486
- Hickey S, Izama A (2017) The politics of governing oil in Uganda: going against the grain? *Afr Aff* 116/463:163–185

- Holterman D (2014) The biopolitical war for life: extractivism and the Ugandan oil state. *Extract Ind Soc* 1:28–37
- Hotteling H (1931) The economics of exhaustible resources. *J Polit Econ* 39(2):137–175
- Hutchful E (2002) Ghana's adjustment experience, the paradox of reform. UN Research Institute of Social Development, Geneva
- Institute of Statistical, Social and Economic Research (ISSER) (2012) The State of The Ghanaian Economy in 2011. ISSER, Accra
- Issah FD (2021) The impact of the boom and slump of oil prices on the housing market in Sekondi-Takoradi, Ghana's Oil City. *Extract Ind Soc* 8(4):100998
- Jeffries R (1978) Class, power and Ideology in Ghana: the Railwaymen of Sekondi. Cambridge University Press, Cambridge
- Joshi N, Agrawal S (2021) Understanding the uneven geography of urban energy transitions: insights from Edmonton, Canada. *Camb J Reg Econ Soc* 14(2):283–299
- Kapp KW (1950/1971) The social costs of private enterprise. Shocken Books, New York
- Killick T (2010) Development economics in action: a study of economic policies in Ghana. Routledge, London
- Klimina A, 2018, 'Rethinking the role of the state', in Jo, T-H, Chester L, and D'I ppoliti C, eds, The Routledge handbook of heterodox economics: theorizing, analyzing, and transforming capitalism, Routledge, London, pp. 458-470.
- Krueger AO (1974) The political economy of the rent-seeking society. *Am Econ Rev* 64:291–303
- Levy MJ Jr (1997) 'Introduction to the Transaction Edition' of Absentee Ownership: business enterprise in recent times: the case of America. Transactions Publishers, New Brunswick and London, pp vii–xxi
- Lewis A (1953) Report on industrialisation and the Gold Coast. The Government Printing Department, Accra
- Marais L, Burger P, Campbell M, van Rooyen D, Denoon-Stevens S (eds) (2021) Coal and energy in Emalahleni, South Africa: considering a just transition. Edinburgh University Press, Edinburgh
- Markusen A (1996) Sticky places in slippery space: a typology of industrial districts. *Econ Geogr* 72(3):293–313
- Markusen A (2006) Urban development and the politics of a creative class: evidence from a study of artists. *Environ Plan A* 38:1921–1940
- McDade BM, Malecki EJ (1996) Entrepreneurial networking: industrial estates in Ghana. *Mindshift voor Economische en Sociale Geografie* 88(3):262–272
- Meardon S (2020) The tariff question, the labor question, and Henry George's triangulation. In: Vallet G (ed) Inequalities and the progressive era: breakthroughs and legacies. Edward Elgar Publishing, Cheltenham, pp 191–207
- Mensah CA, Gough KV, Simon D (2018) Urban green spaces in growing oil cities: the case of Sekondi-Takoradi Metropolis, Ghana. *Int Dev Plan Rev* 40(4):1–25
- Ministry of Finance (2017) Budget of the Republic of Ghana. Ministry of Finance, Accra
- Ministry of Finance (2018) Budget of the Republic of Ghana. Ministry of Finance, Accra
- Ministry of Finance (2019) 'Ghana's oil production estimated to go up to 500,000 barrels per day by 2024', Press Release, 14th February, Oslo. <https://www.mofep.gov.gh/press-release/2019-02-14/ghana%27s-oil-production-estimated-to-go-up-to-500%2C000-Barrels-per-day-by-2024>. Accessed 7.05.2019
- Ministry of Finance (2021) Budget of the Republic of Ghana. Ministry of Finance, Accra
- Ministry of Works and Housing (2017) Sector strategic medium term development plan, 2018 -2021. Ministry of Works and Housing, Accra
- Murphy JT, Carmody P (2015) Africa's information revolution: technical regimes and production networks in South Africa and Tanzania. Wiley Blackwell, Oxford
- Murphy JT, Schindler S (2011) Globalizing development in Bolivia? Alternative networks and value-capture challenges in the wood products industry. *J Econ Geogr* 11(1):61–85
- Nelson RR, Winter SG (1982) An evolutionary theory of economic change. The Belknap Press of Harvard University Press, Cambridge
- Noman A, Stiglitz JE (2015) Industrial policy and economic transformation in Africa. Columbia University Press, New York
- Nwoke CN (1984a) The global struggle over surplus profit for mining: a critical extension of Marx's rent theory. PhD dissertation, Graduate School of International Studies, University of Denver, USA
- Nwoke CN (1984b) World mining rent: an extension of Marx's theories. *Review* 8(1):29–89

- Nwoke CN (1986) Towards authentic economic nationalism in Nigeria. *Afr Today* 33(4):51–69
- Obeng-Odoom F (2010) An urban twist to politics in Ghana. *Habitat Int* 34(4):392–399
- Obeng-Odoom F (2014) Oiling the urban economy: land, labour, capital, and the State in Sekondi-Takoradi, Ghana. Routledge, London
- Obeng-Odoom F (2015) Sustainable urban development in Africa? The case of urban transport in Sekondi-Takoradi, Ghana. *Am Behav Sci* 59(3):424–437
- Obeng-Odoom F (2019) Petroleum accidents in the global south. *Res Polit Econ* 33:111–142
- Obeng-Odoom F (2020) Property, institutions, and social stratification in Africa. Cambridge University Press, New York
- Obeng-Odoom F (2021) Rethinking development economics: problems and prospects of georgist political economy. *Rev Polit Econ*. <https://doi.org/10.1080/09538259.2021.1928334>
- Obeng-Odoom F (2022) Industrial policy, economic theory, and ecological planning. *Int Rev Appl Econ* 36(2):285–290
- Oteng-Ababio M (2018) The oil is drilled in Takoradi, but the money is counted in Accra': the paradox of plenty in the oil city, Ghana. *J Asian Afr Aff* 53(2):268–284
- Ouma S (2020) Farming as financial asset: global finance and the making of institutional. Landscapes. Agenda Publishing, Newcastle Upon Tyne
- Overå R (2017) Local navigations in a global industry: The gendered nature of entrepreneurship in Ghana's oil and gas service sector. *J Dev Stud* 53(3):361–374
- Owoo NS, Page J (2017) Industrial policy in Ghana: From a dominant state to resource abundance. In: Aryeetey E, Kanbur R (eds) . Oxford University Press, Oxford, pp 176–191
- Peil M (1972) The Ghanaian factory worker: industrial man in Africa. Cambridge University Press, Cambridge
- Pellegrini L, Tasciotti L, Spartaco A (2021) A regional resource curse? A synthetic-control approach to oil extraction in Basilicata, Italy. *Ecol Econ* 185:1–13
- Petrella F (1984) Henry George's Theory of State's Agenda: the origins of his ideas on economic policy in Adam Smith's moral theory. *Am J Econ Sociol* 43(3):269–286
- Pietrobelli C, Rabellotti R (2011) Global value chains meet innovation systems: are there learning opportunities for developing countries? *World Dev* 39(7):1261–1269
- Plageman N (2013) colonial ambition, common sense thinking, and the making of Takoradi Harbor, Gold Coast. *Hist Afr* 40:317–352
- Polanyi K (1944/2001) The great transformation: the political and economic origins of our time. Beacon Press, Massachusetts
- Porter ME (1990a) The competitive advantage of nations. *Harvard Business Review*, pp 73–91
- Porter ME (1990b) The competitive advantage of nations. Free Press, New York
- Pressman S (2001) State and government. In: O'Hara P (ed) *Encyclopedia of political economy*, vol 2. Routledge, London, pp 1104–1107
- Public Eye (2016) Dirty diesel: how Swiss traders flood Africa with toxic fuels. Public Eye, Lausanne and Zurich
- Quartey P, Turkson FE, Abbey E, Chachu D, Butu MM, National Development Planning Commission, and Copenhagen Consensus Center (2020) Cost-benefit analysis of interventions in the industrial sector of Ghana. Copenhagen Consensus Center, Copenhagen
- Ramizo G Jr (2016) Industrial policy: a survey of institutional challenges. *J Aust Polit Econ* (77):136–151
- Rodrik D (2014) Green industrial policy. *Oxf Rev Econ Policy* 30(3):469–491
- Rodrik D (2015) Premature deindustrialization. John F. Kennedy School of Government, Harvard University Cambridge
- Rothschild KW (1947) Price theory and oligopoly. *Econ J* 57(227):299–320
- Salazar-Xirinachs JM, Nübler I, Kozul-Wright R (2014) Transforming economies: making industrial policy work for growth, jobs and development. In: Salazar-Xirinachs JM, Nübler I, Kozul-Wright R (eds) *International Labour Office*. ILO, Geneva
- Sarbu B (2014) Ownership and control of oil. Routledge, London and New York
- Scholvin S, Breul M, Mello P, Françoise M, Hiratuka C, Diez JR (2017) Gateway cities in global production networks exemplified by the oil and gas sector. *Gateway cities in global production networks: exemplified by the oil and gas sector*:1–49
- Sekondi-Takoradi City Council, editor (1963) Compendium of articles and speeches on the elevation of Sekondi-Takoradi to 'city' status. Sekondi-Takoradi City Council, Sekondi
- Sekondi-Takoradi Metropolitan Assembly (2014) The Sekondi-Takoradi Metropolitan Assembly: ,Final Draft Medium –Term Development Plan (2014-2017). Sekondi-Takoradi Metropolitan Assembly, Sekondi

- Sekondi-Takoradi Metropolitan Assembly (STMA) (2010/2011) City Spatial Plan, 2010-2013. STMA, Sekondi
- Sekondi-Takoradi Metropolitan Assembly (STMA) (2014) Final Draft Medium –Term Development Plan, 2014-2017. STMA, Sekondi
- Sekondi-Takoradi Metropolitan Assembly (STMA) (2018) Second Local Action Plan, 2018-2020. STMA, Sekondi
- Stiglitz JE, Yifu JL, Patel E (2013) *The industrial policy revolution II Africa in the 21st century*. Palgrave Macmillan, New York
- Sunstein CR (1986) Legal interference with private preferences. *Univ Chic Law Rev* 53:1129–1174
- Taylor P, Derudder B (2016) *World city network: a global urban analysis*, second edition, world city network: a global urban analysis, 2nd edn. Routledge, London and New York
- Temurçin K, Kervankıran İ, Dziwornu MG (2017) Spatial Structure and Distribution of Manufacturing Industries in the Greater Accra Region of Ghana. *Stud Ind Geogr Comm Pol Geogr Soc* 31(4):71–82
- Thaler RH, Sunstein CR (2021) *Nudge: The Final Edition*. Penguin Books, New York
- The Economist (2016) ‘The World in 2016’, *The Economist*. *The Economist*, pp 114–115
- The Economist (2019a) ‘Special Report: Canada’, *The Economist*, July 27th – August 2nd, pp 3-12
- The Economist (2019b) ‘To the last drop’, *The Economist*, November 2nd -8th, pp 13, 62-64
- The Economist (2020a) ‘The Power of Protest’, *The Economist*, June 13th-19th, pp 23-24
- The Economist (2020b) 21st century power: how clean energy will remake geopolitics. *The Economist*, pp 18–20
- The Economist (2020c) ‘Christmas Double Issue’, *The Economist*, December 19th, 2020– January 1st, 2021, pp. pp. 93, 94, 98, 99
- The Economist (2021a) ‘The Brutal Reality of Dealing with China’, *The Economist*, March 20th-26th, pp. 10, 29-30
- The Economist (2021b) ‘The People’s Panopticon’, *The Economist*, August 7th – 13th, p 68
- The Economist (2021c) ‘Power and Paranoia’, *The Economist*, June 26th -July 2nd, p 64
- The Economist (2022) ‘Beware the bossy state: Government, Business and the new era of intervention’, *The Economist*, January 15th-21st, pp. 9-10, special report, pp. 3-12
- Tullow Oil Plc (2017) 2017 Annual Reports and Accounts. Tullow, London
- Tullow Oil Plc (2018) 2018 Annual Reports and Accounts. Tullow, London
- UN Economic and Social Affairs (2008) *International Standard Industrial Classification of All Economic Activities Revision 4*, Statistical papers Series M No. 4/Rev.4. United Nations New York
- Veblen T (1923/1997) *Absentee ownership: business enterprise in recent times: the case of America*. Transactions Publishers, New Brunswick and London
- Vogel R (1998) The impact of natural disaster on urban economic structure. *Rev Radic Polit Econ Rev Radic Polit Econ* 30(3):114–122
- Waller W (2017) Public policy adrift: veblen’s blind drift and neoliberalism. *Forum Soc Econ* 46(3):223–233
- Weiss J (2020) Neoclassical economic perspectives on industrial policy. In: Oqubay A, Cramer C, Chang H-J, Kozul-Wright R (eds) *The Oxford handbook of industrial policy*. Oxford University Press, Oxford chapter 5
- Whitfield L (2018) *Economies after colonialism: Ghana and the struggle for power*. Cambridge University Press, Cambridge and New York
- Wilber CK (1973) Economic development, central planning and allocative efficiency. In: Wilber CK (ed) *the political economy of development and underdevelopment*. Random House, New York, pp 221–239
- World Bank (2009) *Reshaping economic geography*. World Bank, Washington D.C.
- Yankson KV, Gough KV, Esson J, Amankwaa EF (2017) Spatial and social transformations in a secondary city: the role of mobility in Sekondi-Takoradi, Ghana. *Geografisk Tidsskrift-Danish J Geogr* 117(2):82–92
- Yeboah IEA, Waters (1997) Urban economic participation and survival strategies in Ghana: 1960-1984. *Tjidschn vomEconomiche en Sociale Geografie* 88(4):353–368