

PRELIMINARY NOTES ON NOISE, A NEGATIVE EXTERNALITY IN THE NIGERIAN ECONOMY

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Abstract

This paper focuses on externalities in the Nigerian economy, making preliminary notes on noise, arguably the most wide-spread negative externality in the country. Of the four sources of noise identified in the paper, eliminatory and mitigatory actions were proposed for one, leaving the others for later action. A major handicap anticipated is government failure.

Keywords: Noise, externality, government failure

JEL Classification: D52 D62 H23 Q53 Q58 Y20

Introduction

The environmental challenges facing the world today dramatize the impact of negative externalities. Much as satisfactory solutions are yet to emerge, no better way can be found to put negative externalities on the front burner than United Nation's efforts to 'save' the earth (UN 2016). By externality is meant any cost or benefit not fully appropriated by the originator, which then impinges on other unwilling economic agents or on the economy. They can be 'good' as exemplified by the beneficial fallouts of the World Wide Web. They can also be 'bad' when they affect the welfare of others adversely. For example, when herdsmen drive their cattle through roads and farmlands, and the cattle damage crops and mess up the roads, without the cattle owners accounting fully for such damage. That this impinges adversely on the welfare of others is attested to by the increasing armed clashes between the herdsmen and farmers who rise up in protest against economic losses sustained by them through the grazing practices of the herdsmen. As with cattle rearing, so in many other activities, Nigerian economy is replete with negative externalities which afflict the society, the most prominent of which is the environmental damage from oil and gas production in the Niger delta region. In most of these cases, which clearly call for policy intervention, governments appear not to be forthcoming, from the federal to the local levels, which reality appears to have emboldened the insurgency in North Eastern Nigeria, the unrest in the Niger delta region and the escalating clashes between itinerant cattle herdsmen and settled farming communities. This paper proceeds from the perspective that externalities are sufficient to attract policy intervention from a responsive government, and accordingly makes

preliminary notes on the arguably most widespread negative externality in the land: Noise. Noise has been on a steep rise in the last decade and will increase phenomenally except effective policy measures checkmate its growth. Suggestions are made on how to deal with noise in Nigeria as an externality. The rest of the paper is organized as follows: section two briefly examines the nature of negative externalities. Section three traces the challenges in dealing with them. Preliminary notes on noise are made in section four; while in section five ways of dealing with some strands of this particular externality are suggested using Anambra State, Nigeria as a case. Section six concludes the paper.

The nature of negative externality

In the interconnection between the economy and the environment, all wastes arising from economic activities are sunk into the environment from where the input resources arose in the first place. Such wastes are recycled in the environment's life support mechanism, and presented again to earth dwellers in a purified state. Good examples are water and air. Partly because of the nature of the wastes such as mercury, which sorely challenge the natural waste-absorption capacities of the environment, and partly because of the intensity of waste generation on account of rising populations and urbanization, the environment often fails to cope, resulting to degradation. This heightens the negative impact of wastes, drawing attention to the *nature* of input resources for all products, the *probability* of complete processing of resultant waste in nature's life support mechanism, and *intensity* of waste generation. In all of these concerns, costs arise, which are shared with others, who neither desired nor had anything to do with the activity in the first place. Absence of developed markets for some environmental resources, incomplete property rights and interdependence of production and consumption, all give rise to a divergence between private and social costs, which cause externality, and when negative, further result to degradation. Dasgupta (2014) identifies four classes of externalities which are of interest in sustainability analysis, namely consumption, use of the natural environment, reproduction, and technology. These should be of particular concern to developing countries which play home to a great deal of the so-called natural capital on which the world has thus far depended.

The continuous generation of social costs which surpass private costs, has enormous effect on the economy, more so when such economy is already underdeveloped and fragile, and in some cases trapped in underdevelopment. These negative externalities are compounded by peculiar characteristics of developing nations, for example, high population growth with the consequent rural-urban migration, and emergence of slums, overgrazing, deforestation and degradation of water resources and in some cases loss of habitat (World Bank 1992 P7). The view has been expressed that in rural Africa it is not rapid population growth that should be held principally responsible for low agricultural yield and environmental degradation but the failure of technological innovation to keep up with the demands of rising urban population. Since Africa is not at the cutting edge of knowledge, and in economic development is at a stage other continents had successfully passed through, with technological innovations appropriate for that stage, the problem translates into one of policy and management (Dike 2008).

Economic growth spurs increases in externalities in a manner consistent with sectoral composition of domestic output, and the organizational pattern of economic activities. As an increasing function of economic growth, it is clear that if no action is taken to alter the structure of economic output, and the technical input-output relation i.e. technology, and if the people remain underpowered to demand a healthier, cleaner and higher quality environment, the degradation brought about by negative externalities will remain on the increase as the scale of operations increases. In this connection, two features of Nigerian economy are worthy of note.

First, with regard to composition of domestic produce, extractive activities play a huge role in the economy. These are carried on, in the main, by profit minded multinational oil companies. The activities of these companies in the developed world have given rise to innumerable non-governmental organizations (NGOs) able to muster sizeable resources to give them a fight for the environmental damage consequent upon their activities. In Africa where the NGOs are not as strong, it is clear that negative externalities can only increase with increasing scale of economic activities, which indeed is the experience in Nigeria.

Secondly, with regard to organization of other economic activities, informal networks play a huge role in the economy. These networks span all facets of economic life, and are now eagerly promoted by wide ranging interests, notably political and religious. Agenor and Montel (1999) point to economies where the informal sector is at least as large, and may have been larger even than the formal sector. This reality encouraged concerted efforts in Nigeria to access the informal sector in both the real economy (via small and medium scale enterprises platform) and the financial sector (through the creation of community banks). To consolidate gains made into the informal sector, formal annexation followed with re-designation of community banks and transfer of control of the resultant microfinance institutions to the central bank; also the adoption of small and medium scale enterprises in the real sector as the thrust of the nation's industrialization endeavor. What is of interest to us here is not just that informal networks form the hub of economic activities in the Nigerian economy but that they are based on socio-cultural foundations, which harbor the source of a particularly resistant externality – religious noise. That the foundation on which informal networks stand is solid indeed is attested to by the operation of informal loan markets, specifically group finance. The rotating credit variant of group finance has no other collateral security against default except trust. While lending money in the formal banking system without collateral breeds suspicion, trust is alive and well and very well able to secure reasonable amounts of loan in the informal market. This, because of the socio-cultural foundation on which the informal activity is based.

Dealing with externalities

Externalities affect markets and may lead to market failure. When there is a negative externality the marginal private cost falls below the marginal social cost, since the originator does not bear all the cost but in fact transfers some of it to others or the society. The result is that the price which the producer considers competitive is too low to maximize social welfare. A further consequence is that at the low private cost the product is likely to be oversupplied. This further aggravates social dis-welfare. An optimal solution in such situation appears to be to internalize the externality, that is, have the source absorb the entire cost, so as to achieve equality between private and social costs. Should that be the case, whenever private welfare is maximized, maximum social welfare will be simultaneously achieved. In that case, the relevant (and now only) cost of production would be the higher one, which reality would result to a lower equilibrating level of output for the economy (Helbling 2010).

It is not always possible to fully internalize an externality, however. This is partly because it is not always easy to establish the shape of the marginal social cost curve. Keppler (2007) explains that many values behind the social cost curves are just not that simple to evaluate, for example, existence and bequest values in the Non-use values category, as well as direct/ indirect use and option values in the Use values category. It is even more difficult when the source of the externality itself is dispersed (as in many consumption originating externalities) with an even more dispersed adverse social effect. Time horizon is also relevant here from the perspectives of

incubation of actual harm, as well as the nature, context and spatial distribution of the effect of the externality on the human, animal or plant body as well as the environment.

Yet another source of difficulty is government failure. This occurs when government intervention in the market to improve market failure actually makes the situation worse. Pigou (1920) proposed a tax solution to be administered by government with a view to equating marginal private and social costs, thereby internalizing the externality. However, like the market, governments can, and have failed on many occasions in the past. For example, in the endeavour to legislatively control prices, governments have failed repeatedly all over the world. Colander (2004) cites important reasons why governments fail, some of which are that markets are almost always more complicated than they initially seem, while governments do not often have enough information to deal with the problem, hence government intervention leads to more government intervention. Keech, Munger and Simon (2012) distinguish between passive and active government failure, linking markets and government failure with the core functions of aggregation, incentives and information, and with problems of agency, rent seeking and time consistency. Stigler's (1975) cautionary 'warnings about optimistic reliance on political institutions to improve upon market performance' remains germane.

The probability of government failure raises the odds against success in dealing with externalities, and underscores the need for a more knowledgeable and well-considered approach to a solution. Current approaches include direct regulation, incentive policies, voluntary solutions and bargaining. Incentive policies and bargaining play increasingly significant roles as costs escalate and parties increase, in particular when the issues are confronted at international or even global level.

Tax incentive programmes, the so-called effluent fees, are thought to be more efficient than government imposed regulating standards. Market incentive programmes establish market-wide targets and require participants to give proof of compliance, individually or in groups. In the 'cap and trade' variant, the 'cap' refers to the target or specified amount of say, emission, while 'trade' refers to emission certificates given to participants who reduce more than the required amount, which certificates can be traded, i.e. bought or sold or else banked for future use. By buying the certificate, a source which has not directly eliminated or reduced emission or consumption would have satisfied the programme's requirement. Market incentive policies have proved popular, with diversified industry application. Individual transferable quotas (ITQ) have been successfully used in fisheries management. Each ITQ allows for a certain amount of fish to be caught in a given year. Vessel owners can buy or sell quotas according to need (ELC 2008). In the case of bargaining, domestic bargaining approach is predicated upon the existence of clear private property rights and free trade. Coase (1988) argues that in such situation no government intervention or tax solution is needed since the affected parties can bargain for solution. Internationally, the bargaining approach appears to be the viable way to go. Other possibilities exist. In dealing with negative externality the goal is to move the market towards the most efficient allocation of resources. As such the key is to identify the particular tool or policy alternative which can be deployed to achieve this goal.

Noise: A preliminary note

Noise is an undesired sound which interferes with one's hearing of something. Because it is undesired, even when one is not particularly listening to anything else, it interferes with one's free engagement with varieties of sounds from on-going socio-economic activities, or one's enjoyment of some quiet. It thus impinges negatively on the welfare of the one so disturbed; the one who's listening or peace is interfered with.

In afflicting the welfare of the victim, noise describes a wide range. First, it turns the unwilling listener into captive audience, which amounts to an infringement of his fundamental human right to choose what to listen to. It also creates confusion as often, a 'battle' ensues within the one so disturbed as he struggles to stay on the course of his chosen thought-path, from which he risks being thrown off by the interference. Making matters worse, there often is a multiple and simultaneous barrage of noise afflicting everyone in today's Nigerian city. An atmosphere, in which everyone and ill maintained equipment blab away in a confused staccato medley, does not in any way resemble quality environment. It goes so deep as to constitute psychic harassment since it lingers on the psyche for a time after the bombardment, especially when one is forced to absorb impressions or pictures one was ill prepared to confront. High quality time is lost at the incidence of, and for as long as the undesired noise continues, and long afterwards because the victim may be unable to do anything constructive for a while. Time is of course an important economic asset. Noise thus constitutes socio-economic, physical, psychic and health hazard, with physiological implications. Other adverse effects of noise abound, some of which may be mentioned. For one, people speak ever louder today, bordering on shouting even when two persons are together conversing in a friendly way. Also the general irritability observed even with the aged, who should exhibit greater composure or equanimity, may not be unconnected with the constant harassment at home and at work from all kinds of noise, and unnecessarily loud speaking.

In Nigeria, noise emanates from four broad sources

- (a) Religious activity
- (b) Commercial/productive activity
- (c) Government activity
- (d) Ancillary activity

We examine each of these briefly.

Religious Activity

This is of two kinds.

First, noise emanating from places of worship. In Islam, the Prophet instituted public calls on Faithfuls. This was meant for homogenous communities in which the calls served to urge these faithfuls to the next activity (prayer) which they deeply desired and attentively listened out for. Eagerly, those called upon swung into the activity announced by the call. Today the society is heterogeneous with respect to faith, and often those who do not subscribe to the faith are jolted by the calls. Something roughly similar has been quickly adopted by some Christian sects. In many of the Pentecostal places of assembly, loud speakers are placed *outside* to relay proceedings *within* to passersby who may not in any way care about the proceedings. What is even more intrusive into the privacy of others is that they relay the goings-on in their night vigils and prayers to the entire neighborhood.

Secondly, evangelization and open field activity. Although Moslems carry out open field prayers especially for the repose of the dead and where and when adequate mosque sitting capacity is unavailable, the Christian group carries this out as their 'normal' and 'rightful' manner of proceeding. There are innumerable open air crusades, 'adoration' meets, street preaching and evangelization within commercial vehicles. There is an endless supply of preachers and choir masters in motor vehicles, motor parks, markets, offices and hospitals. An elected governor of Anambra State once instituted open air prayers for all civil servants, using time paid for by indigenes and the federation and this is on-going in today's Imo State. For such activity, all those in the vicinity and proximity are held captive, cannot pursue their own thoughts and are thus

forcibly disallowed from carrying on their normal activities during those hours. Things got to a head in the defunct Nnewi North local Govt. Mass Transit when preaching in their buses was banned.

Commercial/Productive Activity

First, merchandising activity in which noise emanates largely from sellers of musical compact disks and videos, as well as hawkers of diverse products. In addition, the activity of commercial passenger vehicle loading in which shrill or high pitch air agitation is considered a strategic aggressive jostling for market share. Also, noise from high decibel horns installed by luxury buses, trucks, cars, even tri cycles. In addition, business promotions and all manner of commercial announcements which often have musical accompaniment, generate incredible noise. In the case of promotions, music is sometimes provided by live bands, and the show, in a bid to draw attention, engages in an intentionally disruptive convoy movement. From production, a lot of noise emanates from small scale producers of various kinds who generally locate in commercial and residential areas; then construction works, departing and landing aircrafts, as well as other uses of heavy equipment generate, all contribute to the prevailing high noise level in Nigeria.

Government Activity

This is well known as the sirens harass and molest road users and intrude into the quiet of all and sundry.

Ancillary Activity

These include weekend street musical jams, funerals, felling of trees using power tools, repairs of motorcycles; motorized vehicles of all classes; electric generating sets of different sizes, which are available in almost every home and office in today's Nigeria, and the noise from which can be muffled if legislatively addressed, etc

Typology

Noise can be a producer or consumer externality. Some can be classed as both producer and consumer at the same time.

Suggested solutions

The effectiveness of proposed solutions depends in part on how two major challenges are addressed. First, the construction of marginal social cost curve of noise. The difficulty is not unconnected with the unhelpful attitude of the general populace towards religious noise, the seemingly increasing obtuseness in that regard, and the near resignation to the insipient menace. As previously mentioned, religious noise arises from religious networks which are based on solid socio-cultural foundations and cannot be treated lightly by any level of government in Nigeria, more so as many governments were installed either by or in active collaboration with religious networks. There is also no short supply of ambitious imams and pastors.

The second challenge is with government failure. Efforts to contain externalities often require firm and competent government action, even if they be market based incentive solutions. Governments in Nigeria have proved inept at regulating the economy, often failing at collecting what is their due for services rendered as, for example, in the energy, communications and solid minerals sectors. It is a common impression that government can hardly keep the police from mounting illegal road blocks; government's inability is revealed by its periodic 'orders' to the police who, again and again, return to the roads with their human or physical blockages.

On account of these two challenges, it is suggested that any attempt to deal with noise diseconomies should commence with noise originating from commercial/productive activities. We indicate below how noise from commercial sources may be addressed.

(a) Commercial vehicle loading points (Private and public motor parks).

The motivating reasons for the continued and increasing use of high decibel public address systems to call attention to oneself appears to be that others are doing so. There is the fear of losing out should one not speak out and be seen. It is noted, however, that the Lagos State Rapid Bus Transit System (BRT), easily the foremost in the country does not practice it.

In 2007 a barrister initiated court process against three transport firms for their breach of peace through the deafening noise they generated at their loading points close to his chambers along Nnobi road, Nnewi in Anambra State. The three firms settled out of court and all three suspended the use of public address system to call out to prospective passengers. When, at that time, all of them discontinued the use of public address system there was no motivation to reintroduce it by any one of them and sanity reigned in that environment. This suggests that with this source of externality, legislation might be successful, barring government failure. While the barrister had an incentive to proceed against the producers, government lawyers may be less motivated.

(b) Merchandising Activity

Musical compact disks and video retailers as well as video club operators who use public address systems tend to operate small businesses. In central business districts they locate in make-shift attachments wherever they can, and use public address facilities to draw attention to themselves. Outside the central business areas they are centers of action and deafening noise. The approach should be to encourage them to find socially less costly ways to draw attention to themselves, for example through the use of colourful bill boards. To encourage them to do so, a prohibitive tax is suggested. In Anambra State, three tax zones could be delineated, and tax imposed as follows:

(i) Awka, Onitsha/Nkpor/Ogbaru & Nnewi: N500,000.00 annually

(ii) Other urban areas: N400,000.00

(iii) Others: N300,000.00

(c) Promotions.

These are temporary, one-off promotional activities mounted by companies. The projected revenue from the offer being promoted should serve as an index for tax estimates. It may be easier and more readily verifiable to base such estimate on cost (of the promotion plus prices and administration, i.e. cost of the package) to the organization, wherein they pay as tax a certain proportion of such expenditure. When next another millionaire producing package is to be promoted, tax should be paid on the total cost of the package. Tax rates should be along sectoral lines. Minimum charge suggested is N1 million for a clearly defined geographical area along with public notice of public disturbance issued two weeks to the date of intended disruptive activity.

Conclusion

Noise is arguably the most wide-spread negative externality in Nigeria. It costs a great deal of man hours and detracts from the efforts to improve the quality of living. Owing to the rigidity arising from religious networks, and the likelihood of government failure, it is suggested that noise emanating from religious and government activities be tackled only after

successfully dealing with noise from commercial activities. Different goals should guide the reaction to different noise types. While with some the aim should be to internalize the social costs, with others it should be to remove the negative externality.

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