Chapter 46
Social, Economic, and Political Aspects of Climate Change

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Abstract Instead of the notion that "developing countries will be able to use emissions-backed currency units to pay off their debts", we find "developing countries must forgive developed countries their United States of America dollar debts so that the emissions-backed currency unit-based climate regime can be introduced". Looking at foreign debt as it stands, India may not yet have an interest in an emissions-backed currency unit (ebcu), and other developing countries might or might not either, not until the dollar mess is sorted out. Before the introduction of the ebcu, it is important to have the demise of the dollar economies, and their demise cannot be hastened by the introduction of the ebcu because the quantum of ebcu bears no relation at all to the quantum of foreign exchange circulating in the developed country economies today. The data suggests that the old international economy based on dollars is finished. There is no way these countries can ever pay back their debt, nor should they, because they would need fossil fuels to do so. Therefore, all debts in all currencies in all countries must be forgiven. This is the same as saying the economies have to collapse. Once these economies have agreed to collapse, a new climate bank is established. Every person in developing countries gets 8.63 emissions-backed currency units and 8.63 permits (Assigned Amount Units) in the first year, declining to net zero in line with the science. Developed countries must buy their permits by selling renewable energy technology and reduce their demand for permits by eliminating greenhouse gas (GHG) emissions from over-consumption. In this period, the world thus trades gently, prudently, as India has been doing, just to get what we need from the international markets, which are basically renewable energy systems.

Keywords Cancellation of debt · Cap and share · Decline of trade · Emissions-backed currency unit · Gross foreign debt

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Abbreviations

AAUs	Assigned Amount Units (permits issued by the UNFCCC)
AOSIS	Association of Small island States
CDM	Clean Development Mechanism
CoP	Conference of the Parties
Ebcu	Emissions-backed currency unit
ETS	Emission Trading System of the European Union
IPCC	Intergovernmental Panel on Climate Change
UNFCCC	United Nations Framework Convention on Climate Change

Introduction

India is lower on the Global Hunger Index than at any time in its history. Like other developing countries, sustainable development in India depends on the reform of the global financial system to make the poor the engine of demand for the global economy. The demand for lifeline energy services, and adequate food, shelter, and water, as well as adequate resources to adapt to climate change, all require large volumes of public investment. India cannot fix its problems if we go it alone.

In order to achieve an equitable sustainable outcome for India and all developing countries at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties, the post-2012 agreement being negotiated at the next COP16 should consist of three, and ideally four and, for a global economy based on equitable arrangements, five parallel paths of actions.

Five Paths for Achieving Equitable Sustainable Outcomes

1. Cuts

A 50% reduction against 1990 levels by developed countries by 2020, or 80% if the Clean Development Mechanism (CDM) is still in the picture (but is it still needed? See item 4 below).

2. Contraction and Convergence

A global agreement to achieve the objective of the Convention based on the Bali Plan of Action, in which a contraction and convergence scenario will see a global commitment to a reduction to net zero tonnes of carbon dioxide equivalent per person by 2050. This is a global cut of 100% against 1990 levels by 2050. Net zero means that emissions of greenhouse gases per person are no more than the forestry

sinks which the country can make available per person. (But is this fixing of cuts and trajectories still needed? See item 4 below.)

3. Country-Specific Trajectories

All countries with emissions above the equitable sustainable emissions level will track their trajectory against the commitment to achieve a reduction of emissions to the global equitable sustainable per capita level of net zero by 2050. If this is agreed, the UNFCCC would have to create country-specific emissions trajectories, to be agreed at COP16, under which each country agrees to finalize its trajectory with the Secretariat and begins implementing it thereafter. (But could this just be replaced by reporting of AAUs bought and sold? See item 4 below.)

4. Cap and Share

This involves monitoring of items 1, 2, and 3, which will be greatly facilitated if the emission reductions under path 1 above for developed countries and levelling off of emissions by developing countries to the equitable sustainable per capita emissions level under paths 2 and 3 are managed through global cap and share, and replace not only CDM, but the Kyoto system, ETS, and the proposed Waxman–Markey forms of emission trading based on "developed country takes all".

Cap and share will replace CDM as the trade relationship between developed and developing countries under the UNFCCC, and has the advantage of avoiding several peculiarities of the CDM system, such as low investment quantum compared to requirements, dependence of investments on emission reduction commitments and trading systems controlled by developed countries, the need for baselines, wrong assumptions about business as usual, and so on.

Cap and share is a simple trade regime for transfer of financial resources for new technologies to the developing countries based on equitable and sustainable per capita allocation of permits in a global regime, taking into account historical emissions, and thus making it more difficult for developed countries to escape their obligations. Under cap and share, the UNFCCC converts the global cap every year into a per capita equal emissions entitlement. It allocates these entitlements to each citizen in developing countries equally (equity based on historical responsibility dictates that developed countries get nothing), and thereafter oil importers and coal producers in all countries must buy such permits (in the UNFCCC language, these are the Assigned Amount Units – AAUs) from the banks and post offices that act as bundling agencies of these permits in each country, as citizens sell them in return for money. The money helps citizens in developing countries to some extent adjust to rising energy prices, but citizens in developed countries must cut their emissions and change their unsustainable lifestyles and sell green technologies to developing countries to earn some emissions-backed currency units with which to buy Assigned Amount Units (permits) (see below).

Developed countries will buy permits from developing countries in order to back the emissions required to build renewable energy systems for export. In any case, no producer anywhere can emit greenhouse gases if they use oil, coal, or gas that was imported or produced without being backed by permits. In this scenario, developed

countries will still not be at the equitable sustainable global average very soon because they may be able to trade in green technologies, but this will not matter because developing countries will be policing the cap. On the other hand, developing countries such as India and China that are already at the equitable sustainable global per capita emissions level will continue to grow their renewable energy economy with surplus ebcus traded for green technology and investment in forestry.

The trajectories of all countries may be watched against the global equitable sustainable per capita emission level. But it is the permit system of cap and share by a new UNFCCC bank/fund/COP agency that will ensure that reductions take place. There is no need for promises to be made. Development will take place through financial flows from selling permits from permit-surplus countries (developing countries) to permit-deficit countries (developed countries). Only if a country is above the equitable sustainable per capita emissions level will it have to buy permits from outside the country. If it is below, it gains from selling permits. India will double or triple its GDP overnight and will have much needed money for development. As the permits limit oil, coal, and gas production to within the global sustainable emission reduction trajectory, the price of permits can be left to the market (but see 5). Under cap and share, monitoring of a country's emissions becomes a subset of monitoring coal, oil, and gas production, which must not take place without permits. This is a different type of policing than there has been hitherto (there has not been any) and will require cooperation from governments through their climate and energy ministries. This is not a major problem: if India wants to grow by 8–9% to serve the needs of the poor, it needs to do this with renewable and nuclear energy, as oil, coal, and gas imports will dwindle after 2020.

5. Emissions-Backed Currency Units

Unlike a real currency, the UNFCCC permits (AAUs) cannot be hoarded and they expire at the end of the year of issue. The USD and the euro, the pound sterling, and all other currencies of high emission countries will lose value rapidly as they adjust to their buying power in relation to permits. At present, there is much too much of this consumer money in circulation in developed countries, and on the other hand, money for food and livelihoods and energy equity is not circulating to the developing countries. Thus, there is a need for a new global currency backed by permits. The currency is distributed on the basis of population to developing countries, as are permits, and starts off at the parity value of one emissions-backed currency unit to one permit. Thus, if the USA needs permits, it must sell something to India for which India pays in ebcu, with which the USA in turn can buy permits for its oil or coal requirement, and there may be competition for permits which will see their price rise to 2 or 3 ebcus for one permit. In this case, the UNFCCC money management institution will recognize that there is too much demand for fossil fuels and too much global trade, and it will take these ebcus out of circulation the following year to restore the parity between the ebcu and a permit.

These are the five parallel paths of action needed. Every year, the emissions are reviewed in the context of global and country-level sinks and in the context of the suggested 650 $GtCO_2e$ budget remaining for the century. This suggestion came from

an IPCC author, Mr Malte Meinshausen. The UNFCCC will move the world towards a net zero emissions of greenhouse gases regime as quickly as it sees fit. After 2050, most emissions will probably be used for high value internet communication to facilitate the UNFCCC process and so on, and all energy production and use will be based on renewable energy. The sustainable per capita emission level is assumed to be 8.63 tonnes carbon dioxide equivalent in year 1, which is the total global emissions in 2006 less a percentage for the Adaptation Fund divided by the population of developing countries and allocated to them. It is not possible to track the price of permits in ebcu at this stage, but it should never remain very far away from parity given the monetary management expected. You see in Table 46.1 for selected countries that India and other developing countries will have large volumes of emission permits to use or sell. The USA and the other countries shown in Table 46.2 below are at the opposite end of the spectrum. India has a historic interest in achieving agreement on all five paths to meet the objective of the UNFCCC.

The Gold–Dollar System and Its Demise

It is no use getting ahead of oneself and writing about economic ideas that have no bearing on the real world yet. Thus, for our ideas to move to a second stage – where details are worked out – the first stage must be completed. In so far as it is demonstrable, we wish to demonstrate here why an emissions-backed currency unit (ebcu) to replace the USD as the global trading currency will not suffer from the same shortcomings that caused the gold–dollar system of the last few decades to

Table 46.1 Surplus of permits – 8.63 AAUs in year 1

Selected countries	Emissions per person in tCO_2e in 2006	AAUs available or for sale per person
		8.6
China	5.93	2.67
Mexico	5.37	3.23
Turkey	3.46	5.14
Egypt	2.61	5.99
Brazil	2.56	6.04
Congo	1.91	6.69
Colombia	1.83	6.77
Indonesia	1.63	6.97
Angola	1.62	6.98
India	1.49	7.11
Morocco	1.45	7.15
Philippines	1.07	7.53
Sudan	0.41	8.19
Ghana	0.40	8.20
Kenya	0.37	8.23
Bangladesh	0.35	8.25
Tanzania	0.15	8.45
Nepal	0.14	8.46

Table 46.2 Gross foreign debt exceeds by far available ebcus

Country	USD/cap foreign debt	Per capita emissions	Free AAUs and free ebcus in year 1 allocated on the basis of population to developing countries
Ireland	520,956	15.87	No
Switzerland	187,725	6.75	No
United Kingdom	173,602	10.72	No
Netherlands	161,104	12.82	No
Belgium	151,314	12.79	No
Norway	115,038	5.45	No
Denmark	107,409	12.84	No
Austria	95,895	8.77	No
France	81,974	7.72	No
Germany	66,311	11.77	No
Finland	64,611	8.86	No
Spain	53,202	8.92	No
Portugal	46,627	7.41	No
Greece	44,725	11.43	No
United States	42,902	20.46	No
Italy	42,454	7.68	No
Australia	38,992	26.16	No
Slovenia	28,166	7.86	No
Canada	24,058	22.80	No
Hungary	20,947	7.23	No
Estonia	20,169	11.48	No
Latvia	18,958	−2.72	No
Japan	16,253	9.77	No
Israel	12,289	12.18	No
Croatia	11,746	5.26	No
Lithuania	10,235	4.52	No
Slovak Republic	9,801	8.50	No
South Korea	8,765	13.79	No
Czech Republic	8,429	14.01	No
Poland	6,966	9.44	No
Bulgaria	6,832	8.30	No
Kazakhstan	6,694	17.91	Yes
Chile	3,995	5.07	Yes
Russia	3,851	17.44	No
Turkey	3,822	3.46	Yes
Uruguay	3,324	2.48	Yes
Argentina	3,146	5.33	Yes
Malaysia	2,949	8.00	Yes
Ukraine	2,321	8.83	Yes
Tunisia	1,928	2.66	Yes
Mexico	1,915	5.37	Yes
Costa Rica	1,900	1.68	Yes
Georgia	1,681	1.38	Yes
El Salvador	1,674	1.19	Yes
South Africa	1,535	12.04	Yes
Belarus	1,518	8.73	No
Brazil	1,397	2.56	Yes

(*continued*)

Table 46.2 (continued)

Country	USD/cap foreign debt	Per capita emissions	Free AAUs and free ebcus in year 1 allocated on the basis of population to developing countries
Peru	1,197	1.39	Yes
Moldova	1,107	2.57	Yes
Armenia	1,028	4.46	Yes
Colombia	983	1.83	Yes
Thailand	951	4.99	Yes
Indonesia	653	1.60	Yes
Kyrgyz Republic	604	1.23	Yes
Bolivia	570	1.69	Yes
China	501	5.93	Yes
Egypt	385	2.61	Yes
India	185	1.49	Yes

collapse; and this, it is argued here, is because of the specific circumstances that make it necessary for central banks to adopt the new global currency, not as a reserve currency, but as a trading currency. Reserves, under this new system, will be in permits (AAUs) initially, but this will soon switch to reserves in the national currency only. There will be sink capacity and food production capacity, land, and suchlike all in the domestic economy and domestic currency. But it will not be possible to hoard or save the global trading currency, the ebcu, as it is linked to the declining supply of permits. As the supply of permits declines, the national currency and the national economy is absolutely more valuable. Globally it will be interesting, to say the least, whether it will still be possible or advisable, let alone desirable, for the middle class to hold property or investments in second countries. How will they get there to enjoy them, after all? It is apparent that the comparative benefits of holding an emissions-backed currency unit relative to dollars cannot be calculated. In other words, central banks cannot know what reserve policy will make their country better off – and perhaps they cannot even define precisely what "being better off" is. This was said by Milton Gilbert, in 1968, with regard to holding gold or dollars, but applies equally to ebcus. However, today we know that "being better off" at the very least means avoiding the temperature rise associated with excessive anthropogenic greenhouse gas emissions. Thus, the purpose of this section is to provide some arguments for cap and share and for adoption of the Ebcu, and to lay to rest some misgivings that people might have because of their experience of the international gold–dollar system. Ideally, this section will contribute to answering objections there still might be that have kept the nearly 20-year long proposal for a global climate bank first mooted by G77, China, and AOSIS in 1991 out of consideration, and therefore to hurry forward its acceptance at COP15.

Ever since 1898, India has provided the classic instance of the working of an exchange standard (The Gold Standard in Theory and History 1985). For at least 100 years, India has adjusted its currency system to the imperatives of the global

economy, first as a colony, and then as an independent state. To understand India's position, we must first understand that the reluctance of all and sundry to criticize America is rooted in this evolution of the colonial system into what we have today. The reason America did not sign the Kyoto Protocol was that there were "few in official circles bold enough to draw the apparently logical conclusion that the dollar was in fundamental disequilibrium" (adapted from Gilbert 1968). No one questioned the value of the economic growth that was made possible by the USA's large balance of trade deficits. With or without the oil–dollar investments and the tortuous commercial banking instruments to get them into circulation of recent months and years, official circles never drew the next logical conclusion of moving to devalue the dollar, and instead they thought up – are continuing to think up – "all sorts of pseudo measures for the long run correction of the deficit". "However, there is not a single successful case of long-run adjustment of a sizeable balance-of-payment deficit – apart from the special cases of reconstruction of war damage to the productive potential of the economy. [. . .] The United States of America in particular has had a long-term programme to restore balance for 7 years and yet the goal is as elusive as ever. Failure to face up to this reflects political attitudes – not economic analysis" (Gilbert 1968). In 1964, Albert Hart, Nicholas Kaldor, and Jan Tinbergen proposed an international commodity reserve currency (ICRC). "The scheme [was] not designed to stabilize national price levels because countries are free to pursue autonomous monetary and exchange rate policies but rather it [was] intended to stabilize the 'real value' of the international unit of account" (Cooper 1982). Gold would be stabilized against the ICRC. Others proposed indexation instead. Underlying all these attempts at reform was thus the hunt for the holy grail of "real value" to control money supply globally. In recent years, several economists have proposed the reform of the international monetary system (Mundell 2009) by introducing a basket of currencies as the "real value". But today we know that the "real value" is climate stability and thus economic policy and monetary policy must adapt to become agencies to limit emissions. This in turn has led to the call for establishing cap and share on the basis of population.

Will the Supply of Emissions-Backed Currency Units be too Tight?

Consideration of the emissions-backed currency unit involves three quantities: the Ebcu, paper money (including demand deposits) called rupees, and some composite of goods and services in which members of the public are directly interested, for example a composite that we can call goods. There are three prices linking these three quantities: the rupee price of goods, the ebcu price of goods, and the rupee price of ebcus, or the other commodity terms of trade between the ebcus and other goods. Because any one of these relative prices can be derived from the other two, only two of them are independent: (Rs/goods) = (ebcu/goods) x (Rs/ebcu) or (Rs/G) = (e/G) x

(Rs/e) where G stands for Goods, e stands for ebcu and Rs stands for rupee. Inflation involves the first of these three prices, Rs/G. Because India will have a large stock of ebcus, officials in attempting to limit inflation would fix the third price, the rupee price of the ebcu. This can be done because the government has a sufficiently large stock of ebcu relative to the stock of rupees outstanding, and it can thus devote control of the supply of the rupee to that objective. Alternatively, if the economy must be managed to fit with the global economy through which ebcus and thus permits to use fossil fuels are available, inflation can be avoided by going to a pure ebcu currency in which "rupees" are ebcu.

If "rupees" are ebcu, India will in effect have the new global trading currency as its national currency. Every year, as the supply of permits tightens, the "rupee/ebcu" should become more valuable, but as its supply is limited by the cap on permits and by the need to limit global growth, the Rs/e remains constant. Economic activity is internal activity which becomes more and more independent of the availability of permits to buy fossil fuels. In India this scenario is possible because of the large ebcu surplus in relation to requirements. If on the other hand "USDs" are ebcus in America, America will also have the new global trading currency as its national currency, but it will have a deficit, as its demand for fossil fuels is much greater than its allocated permits. Thus America must devalue its currency and withdraw large quantities of USDs from circulation in order to manage its balance of payments. This process of adjusting to the ebcu will in effect be the transition to an economy designed to ensure climate stability and equal access to energy that the globe has been waiting for from the USA, but which was not possible to achieve for the USA without the rest of the world figuring out how to control the global money supply, which is the same as saying controlling America's balance of payments deficit (Everyone, incidentally, will be able to pay off their dollar loans with ebcu and thus get out of the dollar).

So whilst India will find it easy for "rupees" to be ebcus, America will find it exceedingly difficult for USDs to be ebcus in direct proportion to its inability to generate wealth without fossil fuels. In the transition, they will earn some ebcus by exporting renewable energy systems. This is because their economy in the transition requires them to demand more permits than their fair share and they thus must trade for a time to earn ebcus with which to buy permits. What will stop this system falling apart due to too tight a regulation of the global money flows and global trade is the fact that permits expire and ebcus are withdrawn from circulation if the ebcu price of a permit rises above 1. As there is no incentive to hoard (save) ebcus, trade is encouraged, until every country has a demand for ebcus that is identical to the equitable sustainable per capita supply, and trade falls off. At this point, trade will be very low, and this will occur at the very latest once caps are at the equitable sustainable level of 1 tonne per person per year in 2050; all people in the USA will be walking and cycling to work just as they do in India. Fossil fuels will hardly be burnt at all, but used for very high value purposes. Only the UNFCCC with some part of the Adaptation Fund ebcus will have some free ebcus to trade for precious oil in case its renewable energy supplies are not enough to run its giant computer. Thus, India and the rest of the developing countries that are under the equitable

sustainable level of greenhouse gas emissions today will benefit from global trade in permits allocated on the basis of population; and will benefit from the introduction of the ebcu that ensures that only a recognized global trading currency can be used for buying permits, thus effectively limiting unsustainable purchasing power in developed countries and forcing them to build up their export trade in renewable energy technologies that developing countries will be able to pay for in their ebcus, which are also allocated on the basis of population.

Is There too Much Discretion?

Another objection, other than the objection above that money will be too tight, might be that the ebcu authorities are empowered to vary periodically the official price of permits, and since thus the system would embody discretion rather than automaticity, it would be bereft of its central feature, which is to introduce price stability. But this is to confuse an emissions-backed currency system with other gold–dollar systems of the past. Automaticity in global monetary affairs is an illusion and goes counter to the need to stabilize the "real value" of the international unit of account, which today is the value of the limited global resource, viz. climate stability. Thus, we are not interested in price stability primarily, but rather in the preservation of an underlying "real value". In fact, India will be able to decide as time goes on whether it allows inflation, i.e. rise in the price of goods in rupees, Rs/G. Instead of sticking to the pure ebcu currency in which rupees are ebcus, officials would allow a floating third price, the rupee price of the ebcu. This can be done as we mentioned above if the government has a sufficiently large stock of ebcu relative to the stock of rupees outstanding and if, when necessary, it devotes control of the supply of the rupee to that objective. In India, this is nothing other than what has been going on all this time in relation to the gold–dollar system. This time, however, there is no scarcity of foreign reserve currency as the limiting factor, but the scarcity of permits. Because we have less demand for permits than what we are entitled to, we have a surplus with which to buy what we need and even after the transition, we will never be in a position that is worse than where we are now, i.e. at one tonne carbon dioxide equivalent per person per year – this is provided we control population somewhat and make efforts to improve sinks, which will be easy once we no longer have to contend with the industrial model of development that was patently not suited to our purpose.

Thus, India has nothing to lose whatsoever in agreeing to a global climate regime based on cap and share, with the proviso that a new global emissions-backed currency unit must be introduced to control global trade to within the limit set by the global cap. If India wishes to continue in the global system, it has a responsibility to design a global system that works. Although others might argue that it is incumbent on the USA as the country with the deficit to solve its deficit problem, the fact is that unless the world argues strongly for the viability of an alternative, the USA will remain the de facto provider of global trade and investment capital. This

scenario is incompatible with an equitable solution where everyone must have energy equity in the context of global caps to preserve climate stability.

Relationship Between Foreign Debt and Climate Stability

Let us analyse now the interesting relationship between foreign debt and climate stability – the gross foreign debt of some countries is listed in the Reserve Bank of India reports. We will analyse them in relation to their position on the emissions rankings table, with the aim of understanding the effect of introducing an emissions-backed currency unit (ebcu). Remember that the reason we are introducing the ebcu is because we found what economists have been hunting for, the holy grail of "real value" underlying the international economy and that we think they can now be pointed to global climate stability as that holy grail.

What we find is that instead of the notion that "developing countries will be able to use ebcus to pay off their debts", what we are finding is "developing countries must forgive developed countries their USD debts so that the ebcu-based climate regime can be introduced". Looking at foreign debt as it stands, India may not yet have an interest in an emissions-backed currency unit, and other developing countries might or might not either, not until the dollar mess is sorted out. Before the introduction of the emissions-backed currency unit, it is important to have the demise of the dollar economies and their demise cannot be hastened by the introduction of the ebcu because the quantum of ebcu bears no relation at all to the quantum of foreign exchange circulating in the developed country economies today. The table suggests that the old international economy based on dollars is finished. There is no way these countries can ever pay back their debt, nor should they, because they would need fossil fuels to do so. Therefore, all debts in all currencies in all countries must be forgiven. This is the same as saying the countries have to collapse – not the countries, we should say, but their economies. Once these economies have agreed to collapse, a new climate bank is established. Every person in developing countries gets 8.63 emissions-backed currency units and 8.63 permits. Then the world starts trading again – gently, prudently, as India has been doing – just to get what they need from the international market, which is basically renewable energy systems. Governments concentrate much more on doing what is right for the people, and forget about the international rat race they could not keep up with. So now we have the global ebcu economy. If the price of a permit goes above 1 ebcu, the surplus ebcus are taken out of the market the following year.

Are Emissions-Backed Currency Units Really Necessary?

Let us think it through again. We must again look at Table 46.2 below. We must again wonder what would happen if there were only caps and no global emissions-backed currency unit. Well, perhaps the renminbi would step in, and perhaps the

rupee. But this transition from the United States dollar to the renminbi is fraught with difficulties because the USA and the rest of the developed countries would not go quietly. The table shows the countries with the biggest per capita foreign debts today with their per capita foreign debts in the first column and the countries with well managed economies (China, India, and Egypt) as comparison. In the second column, the per capita emissions are given. The developed countries who will not be given Assigned Amount Units or emissions-backed currency units must totally reorganize their economies to sell green technologies to earn emissions-backed currency units to be able to buy AAUs. Developing countries such as India and China have surplus ebcus with which to buy more AAUs if they want, and their domestic currency will easily be aligned with the ebcu. A developed country can only get permits by selling something to a developing country that the developing country needs and is willing to pay for in ebcus; so that then the developed countries can then use the ebcus to buy permits for their own needs.

By 2050 or earlier, there will be virtually no trade except between oil and coal producers and oil and coal consumers to the extent that the sinks in any one country allow such imports. This is what is meant by net zero emissions. National currencies will be generating local value through community economic systems, and the countries' governments will be managing the economy to ensure adaptation to climate change.

We can see that by dollar standards, neither China or India has much interest in international currency reform. Both have very low per capita gross foreign debt. But in ebcu standards, India has much to gain, and its trade with China would increase. This would help bring up renewable energy and forestry-based growth in India, perhaps. India could also trade with the USA. In any case, it is seen that the developed country dollar-debtor countries are all also emission debtors – in other words, there is a direct relationship between their profligacy in financial terms and their inability to control their emissions. Checking one, and I believe this is the argument we are making when we suggest introducing the ebcu, checks the other. It must also be remembered that the major part of China's emissions are on account of the lifestyles of these USD-debtor countries with high emissions of their own in addition. But of course checking emissions can be done just with caps. There is in principle no need for global currency reform. Or is there? Looking at the numbers, one simply cannot see the transition occurring in developed countries without total and utter bankruptcy of the countries, after which they submit to a global climate regime run democratically on an equitable basis. Experience at the UNFCCC shows that the so-called Annex 1 countries – the developed countries with high emissions – cannot be forced to cut their emissions, and this is leading to catastrophe. The high-debt countries are resisting managing their foreign debt for the same reason they are resisting limiting their emissions. Of course, ideally India would have found its holy grail earlier, in welfare, or enhancement of freedoms and suchlike, but these were all subsumed within a global economic paradigm shared with all other countries, and so even though economists tried to find something that India could specifically do that was different from what developed countries were doing, because the people were poorer and needed faster growth, in reality they did not do anything much different, but

simply deployed technology, education, and monetary and trade measures according to how they were taught to increase output faster and create more jobs, with the result that India's GDP at factor cost at current prices in 2008–2009 is around Rs. 49,89,804 crore, and the average income per person is apparently Rs. 38,084 per person per year, though it is very unevenly distributed. But leaving income inequality aside, India has fallen steadily on the Global Hunger Index, and by any measure it is not eradicating poverty. Thus, a new approach must clearly be tried.

A Reality Check

One may say that economists have failed us, as indeed have politicians and political theorists who observe without prescribing and then laugh because of a sudden realization of a lack of congruence between a concept and the real objects that had somehow been thought of by way of the concept, and thus they laugh to express the incongruence, and this laughter I think is probably happening more and more frequently in the halls of academic learning and indeed in the offices of finance ministries around the world. And of course this incongruence is a laughing matter, but that is not the end of the matter, because we realize that the people of India, each individual person, and indeed each individual person on Earth, is hostage to the collective failure of these leaders to perceive things as they are, a relatively small group of people whom we here call officials, but who include politicians and other decision-makers. If we compare the gross foreign debts of the countries listed above with the emissions-backed currency units these countries may be possibly able to generate, we find that there is absolutely no correlation. In other words, these countries have been spending at the expense of climate stability, and we all stood idly by, and watched, and complained, but joined in; and we will all continue to do so, unless we wake up, and then the "we" becomes "India", and it is India who takes the lead and suggests at the UNFCCC that the global community take all hard currencies out of circulation and collapse these developed country economies and introduce the ebcu. So there we have the interesting relationship between dollars and emissions – an interesting relationship – of course, why would there not be? We are looking at the numbers for the reason that of course it is. And incidentally, it is also interesting that the expected income in the UK from the sale of emission permits through the European Emission Trading scheme as it is today, is being handled by – yes, the UK Debt Management Office, which is managing a debt of no less than US$10.746 trillion. Developed countries may have come up with the idea of emission permits, but it is up to developing countries to place them on the right footing. And in India we have known all along that there have to be equal per capita emission rights taking into account historical responsibility. An eminent professor in China also recently called for a global climate pact that would involve each country being allowed to emit a certain amount, based on their populations. So what we are saying here is nothing other than what any economist who reads and writes in order to present the facts as they are would herself say, except that we must put

the whole thing in relation to the massive foreign debts of these developed countries today, and the need to collapse them as soon as possible. There will be welfare impacts of course, as there already are in Ireland. But there is no way these lifestyles can continue. All countries must have simple lifestyles – how many more different ways does this have to be said? There was a rumour that Germany does not like foreign debts because of wartime memories. The figures indicate otherwise.

Conclusion

A radical reform of the international financial system based on the introduction of a new currency has as its purpose the regulation of foreign trade so as to limit its quantum and extent in terms of atmospheric space and at the same time ensuring that renewable energy technologies are traded as intensively as possible. Only around 650 billion tonnes of carbon dioxide equivalent in the period up to 2050 should be emitted until humankind is at net zero emissions. Creating and allocating a new international trading currency based on a finite quantum of underlying emissions permits, and allocating it only to developing countries, will ensure that international purchasing power is in the hands of those who need to develop, whilst those who have technology and power will be forced to sell important technologies in order to earn enough of the new currency to engage in the structural transformation of their own energy base. Forgiving all international and national debt in domestic currencies and the United States of America dollar and other hard currencies both for developed and developing countries creates the blank slate on which to write sustainable and equitable trade relations. Domestic economies based on land, human effort, and natural resources will become the predominant source of wealth, with fossil fuel use in the transition period bringing developing countries up to the required level of renewable energy infrastructure. Outlawing the United States dollar, the yen, and the euro as international trading currencies will force these largest economies in the world to focus on their domestic economies, whilst at the same time ensuring that they engage in export of renewable energy technologies to developing countries on benign terms in the shortest possible time.

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