

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 14:37:04.00

SUBJECT: Phone Message from Jonathan Paris

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Jonathan Paris
Company: Council on Foreign Relations
Phone: 212-434-9659
FAX: Message: He requests the name of three American economists. They would like an Amer economist to run a study group on the Middle East trade and economic arrangements, specifically the Levant area. (If you're too busy to call back, he ask that you pass the names to me and I will call him back.)

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 15:17:34.00

SUBJECT: TODAY'S WH Deps Mtg

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

fyi.

----- Forwarded by Lisa D. Branch/CEA/EOP on 08/31/99

03:17 PM -----

LESLIE

BERNSTEIN

08/31/99 03:08:00 PM

Record Type: Record

To: See the distribution list at the bottom of this message

cc: Michael A. Skrebutenas/WHO/EOP@EOP

Subject: Deps

Join us for a Deputies Meeting, tomorrow at 5:30pm in the Roosevelt Room.

Bring your "What I did on my Summer Vacation" stories. Slide show's optional.

Message Sent

To:

Sara M. Latham/WHO/EOP@EOP
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RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 09:14:02.00

SUBJECT: Phone Message from Victoria Greenfield

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Victoria GreenfieldCompany: Phone: grouplist 52FAX: Message:

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 22:39:38.00

SUBJECT: P-5

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Attached is a brief memo on the trade patterns among the P-5 countries in 1998.

On the issue of possible trade creation-diversion effects of a P-5 free trade agreement: given the fact that current barriers among the 5 countries seem relatively low (and are scheduled to drop even more in the next few years), we expect the effects to be small, especially for the United States.

Yu-chin

===== ATTACHMENT 1 =====

ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D76]ARMS24822634H.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

Trade Patterns among the Pacific Five

The attached tables summarize trade patterns among the Pacific Five: the United States, Australia, Chile, New Zealand, and Singapore. Some key points are:

- U.S. trade with other P-5 members is small, accounting for about 5 percent of total U.S. exports and 3 percent of total U.S. imports (Table 1). As a comparison, U.S. trade within NAFTA accounts for close to 35 percent of total U.S. exports and 28 percent of U.S. imports.
- The United States ran a trade surplus of roughly \$4 billion with the P-5 countries in 1998.
- For other countries, New Zealand especially, P-5 trade is relatively important. This is mainly because the United States is a major trading partner for all of them.
- The biggest category of U.S. exports to the P-5, as shown in Table 2, is non-electrical machinery (including computers).
- Agricultural and food products are major categories of U.S. imports Australia, Chile, and New Zealand. Machinery, electrical and non-electrical, constitutes the majority of imports from Singapore.

Table 1

Total Exports of P-5 Countries to the World and Export Shares to Other P-5 Members in 1998

	US	Australia	Chile	New Zealand	Singapore
	Total Exports = USD\$680 billion	Total Exports = USD\$56 billion	Total Exports = USD\$16 billion	Total Exports = USD\$13 billion	Total Exports = USD\$109 billion
US	-	9.5%	15.6%	1234.0%	19.0%
Australia	1.8%	-	0.2%	18.5%	2.7%
Chile	0.6%	0.3%	-	0.3%	0.1%
New Zealand	0.3%	6.3%	0.0%	-	0.3%
Singapore	2.3%	3.7%	0.7%	1.6%	-
Total	4.9%	19.7%	16.5%	32.7%	22.1%

Total Imports of P-5 Countries from the World and Import Shares from Other P-5 Members in 1998

	US	Australia	Chile	New Zealand	Singapore
	Total Imports = USD\$945 billion	Total Imports = USD\$61 billion	Total Imports = USD\$20 billion	Total Imports = USD\$13 billion	Total Imports = USD\$105 billion
US	-	22.5%	21.5%	16.7%	17.6%
Australia	0.6%	-	0.8%	26.3%	1.5%
Chile	0.3%	0.1%	-	0.2%	0.1%
New Zealand	0.2%	4.0%	0.5%	-	0.2%
Singapore	2.0%	2.8%	0.4%	2.0%	-
Total	3.1%	29.2%	23.1%	45.2%	19.4%

Source: IMF Direction of Trade Statistics.

Table 2

Shares of Top 2 Export Categories from US to other P-5s in 1998:

To Australia (total = US\$ 11.93 billion):	Share of Total
• Non-Electrical Machinery	26%
• Transportation Equipment	16%
 To Chile (total = US\$ 3.98 billion):	
• Non-Electrical Machinery	28%
• Transportation Equipment	18%
 To New Zealand (total = US\$ 1.88 billion):	
• Transportation Equipment	30%
• Non-Electrical Machinery	16%
 To Singapore (total = US\$ 15.67 billion):	
• Electrical & Electronic Machinery, Equip., and Supplies	33%
• Non-Electrical Machinery	25%

Note: Non-Electrical Machinery (SIC 35) includes computers

Source: <http://dataweb.usitc.gov>

Table 3

Shares of Top 2 Import Categories from Other P-5s to US in 1998:

From Australia (total = US\$ 5.28 billion):	Share of Total
• Primary Metal Products	19%
• Food & Kindred Products	18%
From Chile (total = US\$ 2.34 billion):	
• Agricultural Products	23%
• Fish & Other Marine Products	14%
From New Zealand (total = US\$ 1.64 billion):	
• Food & Kindred Products	51%
• Fish & Other Marine Products	8%
To Singapore (total = US\$ 18.22 billion):	
• Non-Electrical Machinery	67%
• Electrical & Electronic Machinery, Equipment, and Supplies	16%

Source: <http://dataweb.usitc.gov>

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 12:49:24.00

SUBJECT: Phone Message from Debra Jones

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:

Contact: Debra Jones Company: Times Mag-- Vancouver, Canada Phone: 604-932-6835 FAX: Message: Doing a piece on Canadian leaders, specifically, Dr. Sovey(sp?). Do you think he would make a good leader, discuss his accomplishments, etc?

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 14:37:11.00

SUBJECT: Agenda/Paper for tomorrow's Latin America Small Group Deputies Meeting

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Papers for tomorrow's 12:30 NEC meeting.

----- Forwarded by Lisa D. Branch/CEA/EOP on 08/31/99

02:15 PM -----

Sharon H. Yuan

08/31/99 02:09:45 PM

Record Type: Record

To: See the distribution list at the bottom of this message

cc:

Subject: Agenda/Paper for tomorrow's Latin America Small Group
Deputies Meeting

Message Sent

To:

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Richard M. Saunders/OVP@OVP

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andrew.baukol@do.treas.gov

Lisa D. Branch/CEA/EOP@EOP

Bathsheba N. Crocker/NSC/EOP@EOP

Marilyn L. Scott-Perez/NSC/EOP@EOP

===== ATTACHMENT 1 =====

ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D47]ARMS24692334Z.236 to ASCII,

The following is a HEX DUMP:

===== END ATTACHMENT 2 =====

DEPUTIES MEETING ON LATIN AMERICA

September 1, 1999; 12:30 – 1:30 pm

Gene Sperling's Office, 2nd Fl WW

AGENDA

I. ECUADOR

- Debt Restructuring
- IMF Negotiations
- Political Update

II. BRAZIL

- IMF Performance/Fiscal Reforms
- Political Update

III. ARGENTINA

- External Debt/Financing Update
- Dollarization Update
- Political Update

IV. MEXICO

- Financial Update
- Political Update

V. OTHER COUNTRIES

- Venezuela
- Colombia

Brazil

Key Points:

1. Brazil is on-track with the IMF program.
2. The current situation is much better than expected six months ago.
3. But there is a growing sense that the politics are not conducive to passing the fundamental fiscal reforms necessary for medium-term sustainability. This is due in part to President Cardoso's unpopularity.

Market concern has been growing that President Cardoso's unpopularity and in-fighting within the government's coalition are making it difficult to stay firm on fiscal reform and get the medium-term measures passed in the Congress. Three recent examples of government concessions are:

- (1) President Cardoso offered to forgive a part of small farmers' debts to the government and restructure the remainder at very favorable rates, though he rejected a congressional proposal for more generous debt relief.
- (2) After a nationwide strike by truck drivers in July, the government has suspended plans to implement a system where the price of gasoline is automatically indexed to the exchange rate.
- (3) The government has assumed R\$514 million of the debt of the state of Santa Catarina, and the state will repay on very favorable terms.

There is an increasing sense that progress on the fiscal reform agenda since Q1 has been minimal, and that politics and special interests now appear to be further delaying the advancement of reform in Congress. The better-than-expected growth results for Q2 appear to be ignored by the markets. A deterioration in investor sentiment could make it more difficult to reduce interest rates and could continue to pressure the *real*. Both of those things would negatively impact the domestic debt dynamics.

Market Reaction

These events have pressured the *real*, down 10% since end-June, equity markets, and bond spreads.

	Latest week (Fri. - Fri.)	August to date	since June 30	YTD
<i>Real</i> /\$ depreciation	2.1%	7.1%	9.6%	37.6%
Equity market (R\$)	+3.9%	+0.9%	-9.3%	+55.7%
Equity market (USD)	+7.0%	-6.6%	-16.9%	-3.6%
30-yr. Eurobond spread (bps)	-34	+29	+71	-195

Good news on growth

The market shrugged off the announcement of higher-than-expected growth results for Q2. GDP in the second quarter was down 0.76% y/y, compared to market expectations of -2.0% y/y. GDP grew a seasonally-adjusted 0.93% in Q2, the second straight quarter of growth.

Other Developments

Taxes: News on short-term tax measures is mildly positive. Most court injunctions exempting entire states from paying the CPMF tax have been overturned by higher courts, easing concerns over the flow of tax revenue, but the Supreme Court still needs to rule on its constitutionality. No date is currently set for a ruling. Most local commentators remain optimistic that the Supreme Court will rule in the government's favor on the CPMF and COFINS taxes, while some of the social security contributions will be overturned.

Trade: Brazil's trade numbers continue to disappoint. The latest central bank survey of market expectations showed that the median forecast for the 1999 trade balance was \$1.2 billion, compared to \$1.5 billion at end-July and \$3.7 billion in the IMF program. However, Brazil continues to over-perform on foreign direct investment, taking in \$17.2 billion for January - June, compared to a current account deficit of \$13.8 billion.

Inflation: Inflation is lower than expected five months ago, but slightly higher than expected one - two months ago. Markets expect 1999 consumer price inflation of 7.8% -- under the central bank's inflation target of 8% -- and broad price inflation of 13%, according to the latest central bank survey of market expectations (August 13), up from 7.5% and 12%, respectively, one month ago. Inflation expectations have risen largely due to one-off administered price increases in July and August. The July IMF program review projects 8% consumer price inflation and 12% broad price inflation in 1999.

Real interest rates: The July revision to the IMF program projects an end-of-year real interest rate of 9.8%. The ex ante (annualized) one-month August real interest rate, based on the central bank's survey of market inflation expectations and interest rate futures, is 11.8%. The ex ante four-month real interest rate is 16.8%.

IMF drawing

The central bank announced that Brazil did not plan on drawing the available IMF tranche at the present time, but would draw if the funds were necessary. The markets took little notice of the announcement.

D.Smith/INL
August 30, 1999

Argentina

- Perception of risk has increased somewhat over past few months, due in large part to pre-election noise. But economic policy is solid. On track with IMF program, strong banking sector, none of the outflow of domestic deposits that we saw in 1995. Favored presidential candidate (De La Rúa) likely to pursue continued strong economic policies.
- Like much of Latin America (Colombia, Chile, Ecuador, Venezuela), Argentina is in recession. Principal causes are global financial turbulence (which reduced capital inflows and pushed up interest rates); weak commodity prices; and exposure to Brazil. Analysts and IMF expect recession has bottomed out and we will see growth in second half.
- At present, capital market access for Argentina (and most other Latin issuers) is limited. Short term OK, since Argentina has already met most of its 1999 public external financing needs (Argentina still needs to raise about \$1 billion and would like to pre-finance some of next year's needs). Main risk going forward is that international emerging debt markets will stay closed next year, when Argentina needs to raise \$18 billion (including about \$10 billion on private capital markets). Absent that, medium term looks bright. Note: Argentina is seeking a World Bank policy-based guarantee. Main arguments are lack of access except at short term and small amounts; good policy framework; and possibly benefit of doing something positive at time when markets are seeing official sector as playing harmful role in Ecuador.
- GOA and USG had informal discussions on dollarization. Argentina has agreed with USG assessment that it is wise to put further discussions on hold, given that discussions can do little to advance the discussion in the two months remaining before the October 24 presidential elections, and that such discussions would risk being drawn becoming politicized.

Ecuador

Key Points on Ecuador Debt Restructuring

- GOE moving ahead with effort to restructure Brady debt. Negotiations with IMF nearing conclusion on LOI, with significant prior actions attached.
- Timing issue – LOI is likely, but GOE not likely to be able to get a Fund program quickly. Official sector has to take careful approach to how we engage on restructuring.
- Clear case where action needed from private creditors – large payments due to private creditors in program period and serious questions about medium term debt sustainability.
- Outcome we want is a restructuring that meets GOE financing need in program period and provides appropriate private sector involvement, and also helps address the medium term sustainability problem.
- Makes sense for IMF to give GOE broad parameters, GOE to work out arrangements with private creditors. They may be able to engineer a debt swap that meets our requirements.
- If they can reach acceptable agreement, we should be willing to support an IMF program (with needed policy reform) and a Paris Club rescheduling.
- Agree with Stan Fischer's view that it's good not to over-manage how they do restructuring – whether they treat Bradies or Eurobonds, etc-- if they can meet our basic conditions.
- Need to take careful approach in public statements to minimize real dangers of contagion. Emphasize importance of transparent, orderly, consultative process, importance of meeting obligations to the extent feasible.
- Concur with the IMF view that GOE's initial restructuring proposal was inadequate. Debt exchange provided very little cash relief to meet financing gap (most of savings from debt reduction were in the very long term), concerns about the oil backed bond that provided most of the near term cash financing. Doubts about consistency of the proposal with a medium term plan for debt sustainability.

Status of IMF-Ecuador Negotiations

- The Fund reports that a draft LOI has been agreed upon, which now must receive final GOE and mission clearances and then go to management for signature (perceived by the Fund as formalities). A signed LOI is still several weeks off.

- The LOI will include prior actions on fiscal and banking. If prior actions are met, the earliest possible Board date would be late-October or early November.
- Fiscal priors are passage of VAT hike from 10 to 15% by mid-October, income tax changes for base broadening and reducing thresholds, and passage of the FY2000 budget. The earliest all of this is expected is mid-October. The fiscal measures would lower the projected deficit from 4.7% of GDP to about 4.0-4.2% of GDP this year and about 2-1/2% next year. The government has tried this year without success to implement more modest tax increases, and it was forced in the face of social unrest to rescind a gas tax hike earlier this summer. In light of that record, of the Administration's weak position in Congress, and of Mahuad's deep lack of popular support, it will be a challenge for Mahuad to deliver the fiscal prior actions.
- Banking priors include improved ability to intervene and changes regarding subordinated loans. restructuring Ecuador recently failed to pass legislation to give the government clear authority to close insolvent banks. Mahuad vetoed that legislation, with the Fund's concurrence, after it was loaded with objectionable provisions by the opposition. On the positive side, Fund staff say bank audit results were better than expected: only three small banks and one large bank need to be shut down due to negative capital, four banks must be recapitalized (at a cost of \$148 million), and 25 banks are adequately capitalized. The total cost of the bank bailout is projected to be around \$1.5 billion
- Our assessment is that the prior actions will be tough to meet due to political opposition in Congress -- though there is some thought that Congress may be somewhat swayed by recognition that Ecuador is on the doorstep of disaster and through cabinet changes (Mahuad announced Finance Minister Armijos' resignation last Friday 8/27).
- Financing The IMF has told Ecuador that it will need to find \$420 million in private sector external financing over 1999-2000. Following rejection by the IMF of the GOE's initial private financing proposal, the GOE has developed a revised proposal, which it is now circulating, that increases private sector participation.
- A Board-approved program could unlock as much as \$500 million in IDB and World Bank support this year and more next year.

TABLE 1
Ecuador Economic Data

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999(f)</u>	<u>2000(f)</u>
Real GDP Growth (%)	2.0	3.4	0.4	-7.0	3.0
w/out oil	2.6	3.4	1.0	n.a.	n.a.
Oil only	-	2.1	3.5	-3.6	n.a.
Oil Export Prices (\$/barrel)	18.0	15.0	9.2	12.6	14.7
Consumer Price Inflation (Dec/Dec)	25.6	30.7	43.4	60.0	25.0
Nominal Fiscal Balance (% of GDP)	-3.0	-2.6	-5.7	-4.7	n.a.
(1999 figure is <u>before</u> fiscal measures)					
Revenues (% of GDP)	24.3	23.8	20.3	n.a.	n.a.
Expenditures (% of GDP)	27.4	26.3	26.1	n.a.	n.a.
Exports (\$ billions)	4.9	5.3	4.2	4.1	4.6
o/w Oil	1.8	1.6	0.9	1.2	1.5
Imports (\$ billions)	3.9	4.7	5.2	3.0	3.7
Trade Balance (\$ billions)	1.0	0.6	-0.9	1.2	1.0
Current Account Balance (\$ billions)	0.1	-0.7	-2.2	0.4	0.2
Current Account/GDP (%)	0.7	-3.6	-11.0	2.8	1.0
Gross Reserves (end-year or latest) (\$ billions)	1.9	2.1	1.7	1.3*	n.a.
Gross Reserves (months of XGS)	5.0	4.7	3.4	4.5	4.5
Nominal GDP (\$billions)	19.2	19.8	19.7	14.5**	15.0
Per Capita GDP (\$ per person)	1,637	1,655	1,619	1,170	n.a.
Total External Debt (% of GDP)	76.2	76.9	82.2	110.9	109.4
O/w public debt (% of GDP)	65.9	64.2	66.2	95.1	94.0
External Debt Service Ratio (% of XGS)	28.8	30.5	37.8	35.4	36.4
O/w public debt (% of XGS)	25.4	26.8	32.1	29.8	30.5

* As of August 201 1999. Information from IMF staff and elsewhere suggests that only about \$650m is freely usable.

** Lower dollar value of GDP reflects depreciation after 2/12/99 float of *sucre* and real GDP contraction.

n.a. Not available

Colombia

Key Points:

- Colombia is in recession -- as is much of Latin America -- but the economic team is on the right track.
- We have been strong supporters at the IMF, World Bank, and IDB, and those IFIs are all helping Colombia.

An inter-agency process has been created to devise a comprehensive strategy for supporting Colombia in areas of security, counter-narcotics, institution-building, and economics. This will culminate in a principals meeting in mid-September. Treasury is part of the economics group and Rich Johnston traveled with A/S Al Larson to Bogota on August 30 to meet with Colombian economic officials. Treasury's agenda primarily relates to the IFI's, where relations are on-track.

The economy is expected to contract about 2% this year, the first year of negative growth since 1942. The recession is in part due to international factors, including weak commodity prices and reduced private capital flows to emerging markets. However, weakened confidence due to fiscal slippage and increased perceptions of political risk have also played a role. The banking system is seen as relatively well-managed and well-regulated, but problem loans are increasing due to high interest rates last year and recession this year. The Pastrana Government, which took office in August 1998, is working with IMF staff on a 3-year EFF designed to correct the fiscal erosion of the past few years and gain market confidence. The IDB has lent Colombia \$900 million in adjustment loans this year. The World Bank is expected to approve a \$500 million adjustment loan (FSAL) in October.

Venezuela

Key Points:

- Economic policies under Chavez have been ok to date, despite occasional populist rhetoric.
- But it is hard to tell what Chavez's economic agenda will be, and big political uncertainties are suppressing investment.
- Venezuela has good relations with the World Bank and IDB. Venezuela does not have an economic program.
- What is your assessment of the politics and Chavez as a democrat?

Since President Chavez took office in February 1999, economic policy in Venezuela has mostly drifted as political reform has dominated the agenda. The Chavez Administration has offered piecemeal and at times interventionist economic policies, only to back off in favor of more market friendly proposals. Most recently, President Chavez proposed a mandatory ceiling on interest rates, but subsequently agreed to a "voluntary" reduction by banks that also lowered bank reserve requirements and deposits insurance rates.

The Chavez supporter-dominated Constitutional Assembly (recently elected to rewrite the constitution), has demonstrated mixed views on economic policy; e.g., the early reports suggest draft constitution will maintain the independence of the central bank but does not recognize any judicial authority outside Venezuela. One observer told Treasury that the key people in the CA have the expertise to draft a market-friendly constitution.

GDP is expected to fall 6% this year, and the current account surplus is expected to be \$2.6 billion. Earlier worries about the fiscal deficit have been eased by the surging oil prices. Spreads on Venezuela's Global '27 bonds were 881 bps on 8/27 (-136 ytd) and the Venezuelan stock market has moved -6% ytd in local currency and -14% ytd dollars.

MEXICO UPDATE: FIRST HALF OF 1999

Summary: The Mexican economy continues to outperform other Latin economies largely due to its close ties to the U.S. economy and prudent fiscal and monetary policies. Though the IMF has not completed its June review under the IMF SBA, Mexico appears on track to hit its 1999 fiscal deficit target of 1.25% of GDP and its inflation objective of 13%. Despite higher than expected oil prices, Hacienda forecasts that 1999 revenues will equal budgeted revenues primarily due to a delay in privatization. Structurally, IPAB is making some progress on its Herculean task of restoring the banking system to health, but concerns remain. Also, the government announced plans to send to Congress next week a legislative package that would overhaul the bankruptcy laws.

Macroeconomy: GDP grew 2.5 y/y in 1H99 on the back of strong export growth -- exports to the United States, which accounted for 20% of aggregate demand in 1998, increased 12% over 1H98. The government and most analysts forecast full-year GDP growth around 3%. Other highlights of Mexico's 1H99 economic performance include:

- GDP growth is picking up on a seasonally-adjusted basis. GDP grew 2.3% q/q in 2Q99 and 0.7% in 1Q99 after contracting 1.0% in 4Q98.
- In July, the unemployment rate reached a six-year low of 2.3% nsa (2.2% sa).
- Inflation was 17% y/y in July. Analysts expect inflation to be 14.1% y/y in 1999 according to July's BOM survey vs. the GOM's 13% objective.
- As of July, the monetary base and M-4 had grown, in real terms, 5.9% and 8.1% y/y, respectively, while real bank credit to the private sector had fallen 14.3% y/y.
- After a mid-January dip, asset prices are now well above 1998 year-end levels. As of August 25, the Bolsa index is up 40% in dollar terms and the 28- and 91-day Cetes rates have both fallen over 1,000 bps to 19.7% and 21.2%, respectively.
- Since January 1, the peso is up 6.5% in nominal terms, supported by FDI of \$5.5 billion in 1H99. The CPI-based and the wage-based real effective exchange rates remain about 4.3% and 25% below their respective November 1994 levels. On August 20, gross reserves were \$30.8 billion; net reserves were \$26.4 billion.
- The cumulative trade deficit for the first seven months of 1999 was \$2.3 billion compared to \$3.8 billion over the same period in 1999. Mexico had a trade surplus with the United States of \$12.4 billion (about 6% of 1H GDP) in 1H99. Petroleum exports over the January to July period were \$4.5 billion, about the same as last year, despite a 50% y/y increase in July.

Fiscal policy: Fiscal performance in the first half of 1999 is on course to achieve the 1.25% of GDP fiscal deficit target for 1999. Hacienda continues to downplay the likelihood of any increase in overall revenues from a potential oil revenue windfall. (The budget law stipulates that overall revenues in excess of 1% of budgeted revenues --about 9.5 billion pesos -- will be set aside and used to amortize public debt.) We view the GOM's cautious approach to recognizing additional fiscal revenues as desirable – it gives them flexibility should oil prices fall -- but it raises questions about budget transparency.

- In 1H99, the public sector recorded overall and primary surpluses of 7.9 billion pesos and 98.3 billion pesos, respectively, which are consistent with the 1999 deficit target, given that fiscal expenditures fall more heavily in 2H99.
- A 7.1% real increase in non-oil revenues in 1H99 over 1H98 supported a 3.6% real increase in total public sector revenues, in line with the Government's fiscal program. However, Hacienda claims that oil export revenues were \$14 million lower than budgeted for three reasons:
 - the cut-back in export volumes under March's oil producers' agreement reduced oil receipts \$74 million;
 - the peso's unexpected appreciation lowered peso revenue from oil exports by 2,331 million pesos or \$240 million; while
 - an average export price of \$9.68/barrel compared to a budgeted price of \$8.92 increased oil revenue \$300 million. Note: The average export price of \$9.68/barrel corresponds to the six-month period from November 1998 to April 1999. There is some question as to whether oil revenues are received one or two months after the actual sale. If oil revenues are received one month after sale (as Hacienda stated in April) then the average export price for 1H99 was \$10.4/barrel.
- Hacienda expects full-year revenues to equal budgeted revenues as any additional oil revenues in 2H99 will be offset by a shortage of privatization receipts relative to the 16.1 billion pesos (\$1.7 billion) in the budget. (Note: The IMF program includes privatization receipts as revenue.) Hacienda has delayed the sale of the government's shares in an airport company until 1Q00 from 2H99.
- Net public expenditures increased 3.4% in real terms during 1H99. Interest payments increased 45.4% in real terms over 1H98 due to high-interest rate debt issued in 2H98 and comprised 19% of fiscal expenditure in 1H99, compared to 13% in 1H98.
- Net public sector debt to GDP decreased to 25.4% at the end of June from 27.9% at the end of December. Net external public sector debt (including IMF purchases) fell to \$87.8 billion (21% of GDP) from \$90.6 billion over the same period, though \$1.5 billion of the fall was attributable to foreign exchange adjustments.

IMF program: Fund staff told us that it is too early to assess the second quarter fiscal balance given the “tricky” nature of the calculation. However, the Fund noted that Mexico meets all the other criteria for the end of June and that the authorities have made a good effort on the sale of IPAB assets. Note: The January-to-June floor for the overall fiscal balance is a negative 12.85 billion pesos and the January-to-June floor for the primary balance is 91.98 billion pesos. Based on the Hacienda’s published figures noted above, it would appear that Mexico met the fiscal performance criterion.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME:31-AUG-1999 18:22:41.00

SUBJECT: Emerging Markets Special Report: Ecuador Now Appearing In The Self-Help Section For Brady Holders

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

----- Forwarded by John G. Fernald/CEA/EOP on 08/31/99

06:22 PM -----

Steven N. Braun 08/31/99 03:59:08 PM

Record Type: Record

To: John G. Fernald/CEA/EOP@EOP

cc:

Subject: Emerging Markets Special Report: Ecuador Now Appearing In
The Self-Help Section For Brady Holders

----- Forwarded by Steven N. Braun/CEA/EOP on 08/31/99

03:59 PM -----

Medley_Global_Advisors@medleyadvisors.com

08/23/99 12:32:38 PM

Record Type: Record

To:

cc:

Subject: Emerging Markets Special Report: Ecuador Now Appearing In The
Self-Help Section For Brady Holders

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full extent of the law.

Medley Global Advisors 212-219-9096

(See attached file: sraug23.pdf)

- sraug23.pdf

===== ATTACHMENT 1 =====

ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D56]ARMS23226534V.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

MEDLEY GLOBAL ADVISORS

Emerging Markets Special Report

Ecuador: Now Appearing In The Self-Help Section For Brady Holders

August 23, 1999

As we write this report, **Ecuadorian President Mahuad is locked in intense meetings with the top echelons of his newly refurbished economic team trying to choose from an unappetizing menu of financing options.** Finance Minister Armijos just returned to Quito from her tumultuous and leaky Washington sojourn, where she was not always advancing the agenda of her new boss, Economics Superminister Lasso, or that of the President. The very fractious nature of the Ecuadorian government is at the heart of the hesitancy that the IFI's have displayed in putting forward a new funding package to bridge the country's liquidity crisis. In a perverse way, **Ecuador's desperate political and social circumstances and its current governability crisis give the G7 and the IMF Executive Board a perfect excuse to advance the *burden sharing* cause and make Ecuador the first country where bondholders pitch in alongside the IFIs.** At best, Brady bond interest payments will not be made in a timely fashion, despite the protestations to the contrary from the Central Bank and Ministry of Finance.

HOW DID WE GET HERE? THE G7 DICTUM AND THE IFIs

Washington IFI officials have adamantly reminded us over the last 48 hours that **the IMF is run by politically liable board members, and that given the confluence of the "sentiment of the G7 and the fact that Ecuador 'cannot pay policemen or teachers' it would be impossible to give top priority to the timely payment of foreign Brady holders."** This line tells you all you need to know about what is really going on with Ecuador now.

As you recall, **a key component of the new financial architecture that has been discussed in G7 and IFI fora over the last two years is the private sector contribution to crisis response.** The international policy community patted itself firmly on the back for orchestrating the Korean bank debt rollover, and has been looking for ways to involve private sector bond-holders in what has come to be known as **"bailing in" or "burden sharing."**

Policy makers have stressed their purported understanding of the tradeoffs between the sanctity of contracts and the desire that those compensated for taking on risk actually bear it, as well as between immediate debt relief and future access to markets. **Although a case-by-case approach has been promised, it has been clear for some time that officials have been looking for a guinea pig --** Pakistan, Ukraine, Romania, and of late Ecuador were among those rumored to be under pressure to default and set the new standard for private sector participation. **President Mahuad's weak powerbase -- exacerbated by the savage modus operandi of his political and coastal opposition -- coupled with the country's relative insignificance have provided the G7 with the combination made in heaven -- or hell** (the road to which is paved with good intentions, such as trying to rid international financial markets of moral hazard).

THE QUITO PERSPECTIVE

Twice in the last couple of months you have heard false alarms about the IMF cavalry coming to the rescue of President Mahuad and PDI holders. As late as this weekend, highly placed sources in both the Ecuadorian Central Bank and Ministry of Finance continue to denounce any kind of speculation of Brady payment postponement or non-payment. In fact, Friday morning, **Economics Superminister Lasso denied all reports of non-payment and unilateral moratorium, but left the door wide open for an IFI-endorsed alternative financing arrangement. The IMF has not said that bond holders deserve lower priority, but it has said that the economic and social realities of**

Ecuador require a sustainable debt structure. A US investment bank has been asked to design a new arrangement which bond holders will accept on a voluntary basis. As you already know, Chase and Citi will also be involved in the so-called conversations, representing the bondholders. As one source involved in the discussions told us, "You will never hear the Fund tell you how to deal with the bond holders, but you will hear the Fund endorse the voluntary arrangements offered by Ecuador under the guidance of Salomon."

Few in the top echelons of the IFI community believe that Ecuador will end up paying the \$95 million on time, but even fewer think that a hard policy decision has been made on this yet.

According to some in the Palacio de Carandolet "the worst is over" and now payment or non-payment is largely irrelevant. Why pay on time if "the damage is already done?" The decision will depend in part on this week's discussions with the IMF, and in part on the restructuring plan to be delivered ASAP by some poor analysts crunching numbers through the night down Greenwich Street at the Citigroup building. It has been noted in official circles, though, that postponed payments are a great incentive for bondholders to "volunteer" for a restructuring.

What we can tell you is that the current plan is to sign a "contingent letter of intent" (yes, all letters of intent are contingent, but some are more so than others) as soon as the Ecuadorians and the Fund mission come up with hard numbers, targets, and the like. Then, the Ecuadorians would try to reach an agreement with the bond holders before the end of next month. Sure, the \$95 million Brady payment is due by month-end, but Ecuadorian officials have reminded us of the additional month grace period. **If all goes well, the Ecuadorians will do what they sign, the bondholders will reach agreement, and then the IMF Board would favorably view a bail-in package in October,** with additional help coming from the World Bank, the IADB, and CAFE. If this schedule holds, the IMF Board will not meet until **after whatever prior conditions are agreed with respect to paying the Brady installment have been executed.**

The upcoming week is critical, and rumors are swirling, because the numbers and targets agreed with the IMF will influence how much money is left to pay bondholders. **Given the road of burden sharing that has brought us to this point, the amount paid to bondholders is a number that is likely to be more of a residual** than a core element of the program -- which is exactly how the degree of Paris Club, official and other lender "forgiveness" has usually been "calculated." We have learned that the repurchase of all or part of the country's existing Brady debt (\$6 billion or 52% of the country's public debt) and/or the emission of new bonds are also being considered. The President's office wants to announce some of the preliminary details as early as today. In addition to proposals on "alternative financing solutions to address the sustainability of the debt structure in a way that represents the social reality of the country," President Mahuad will receive from his economic team details regarding specific fiscal and monetary goals for the next 18 months in order to seal the deal with the IMF and sign the letter of intent as soon as possible. Among the issues the Fund representatives still have to resolve this week are specific reserves target levels and monetary emissions.

THE LATIN AMERICAN ANGLE

IFI officials are well aware of the imperative to contain the damage to Ecuador and minimize the possibility of crisis-creep to other countries of the region. The feeling in Washington is that a "voluntary arrangement" with bondholders is most likely to be effective in containing the damage, but such a solution has not yet been reified.

While negotiations with and speculation about Ecuador continue, however, **we already saw some sentiment spillover last week, including a decline in the Brazilian real substantial enough to provoke a massive policy response from BCB head Arminio Fraga.** The Brazilian Central Bank is fighting to stabilize the real by intervening to provide billions in currency hedges in the form of dollar-indexed bonds (another lot will be sold today). Fraga is confident that the economic fundamentals are on his side, justifying what is essentially forward selling of Central Bank

reserves. Unfortunately the political fundamentals remain arrayed against him. Fraga's strategy has a built-in end point: the arithmetic of satisfying internal demand for dollars means good fundamentals have to continue on the economic side, and that means some politically sound fundamentals better show up soon.

Although Latin America as a whole has unsolved fiscal issues, **the timing of the troubles in Ecuador is particularly bad for Argentina**, which is having difficulties locating affordable funding to meet its needs until after the election and into next year. Since the uncertainty looks set to continue for weeks, Argentina is particularly -- though by no means uniquely -- vulnerable to spread widening. And we'd be remiss if we didn't mention that a potential default, even in as messed-up a place as Quito, would feel like a dousing of cold water on anyone monitoring the risk of corporate defaults throughout the region.

From our conversations with policy-makers, the one thing that is abundantly clear is that no one is sure how severe the market response will be for other countries' paper. The IMF consulted market sources and G3 officials to get a read on the potential for contagion before choosing this moment to push ahead with a program designed around bailing in. The latest IMF leaks appear aimed at demonstrating that any Ecuadorian decision to pay or not pay is the country's own and emerges from the country's own intractable debt problems, not because the IMF has its sights set on blowing up the Brady bond market. But containing an Ecuadorian default -- sorry, we meant voluntary restructuring -- will be easier said than done.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 11:33:38.00

SUBJECT: P-5 thoughts

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

This morning I have canvassed a few views, asking opinions of Adam Posen, Cathy Mann, and Nathan Sheets (Fed, covers Japan). I now have two conflicting IIE views; I called Fred again, but he hasn't gotten back to me. I also just spoke with Victoria.

I am increasingly skeptical that this is a good idea, mainly because it seems to raise political difficulties at home home for uncertain gains to liberalization efforts abroad. On key issues:

The negatives:

(1) This is likely to be costly at home.

Neither Victoria nor Cathy think it's going to be easy, given that we have trade disputes already--that is, the grape and sheep people might well be really annoyed. That is, there are really contentious issues here, so it won't be quick or painless to implement.

(2) There is no lobby FOR this at home, to counter the lobby against it?

No one could think of one. If you could get some labor/environment people in favor of it, that would be great; but it's not clear you could.

(3) Japan would be ticked off.

Adam thinks they'd be ticked off in a good and constructive way, and besides they deserve to be called to account for screwing up the last APEC meeting, when they derailed the process by insisting on a lot of little ag/fish stuff. Nathan thinks they might view it as a slap in the face, and that it would feed their inferiority complex about geopolitics; this would make them less, rather than more, likely to obstruct what we think are good ideas.

The positives:

(1) Korea and Thailand et al would probably view it as an opportunity.

After all, they could hope to join (are we going to say up front that they can't?). Besides, if they expressed an interest, that would at least start negotiations going. This seems to be the strongest argument in favor of P-5, but I am unsure it's enough of an opportunity to offset the negatives listed above.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 10:09:08.00

SUBJECT: Phone Message from Debra Jones

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Debra Jones Company: Time Magazine Phone: 604-932-6835 FAX: Message: re: she is doing a story on leaders, in particular Pierre Sauce

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Felipe P. Anova (CN=Felipe P. Anova/OU=OA/O=EOP [OA])

CREATION DATE/TIME: 1-SEP-1999 14:29:27.00

SUBJECT: EXPENSE CLAIM

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Your expense claim for \$28.30 was processed through EFT by Janet Alleyne
on 08/27/99.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 11:56:31.00

SUBJECT: Phone Message from Dani Rodrik

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Dani RodrikCompany: Phone: 617-495-9454FAX: Message:

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 15:22:17.00

SUBJECT: Phone Message from Deborah Jones

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Deborah Jones
Company: Times Mag, Canada
Phone: Cell #604-341-6806
FAX: Message: Ask that you call her back on her cell # or e-mail her @ eclectic@istar.ca

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 10:01:05.00

SUBJECT: Re: P-5

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Unfortunately, wire rod is calling. The's a battle in 5 minutes. I am going for no-injury.

I've passed on the P-5 tasks to John Goldie, more specifically, we are gathering info on:

- 1) GDP numbers as you requested
- 2) finding out major trade issues with each of the 5 (via 1998 USTR trade barrier report and Inside US Trade reports)
- 3) finding out bilateral tariff levels (if possible) among the P-5
- 4) seeing how important P-5 is as a share of total U.S. agricultural/food imports (since they are the major categories of US imports from these countries.)

If there's anything else, please let John know.

Yu-chin

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 08:19:33.00

SUBJECT: Re: P-5

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Can you also get me data on these economies per capita incomes and overaLL
GDP?

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 00:50:24.00

SUBJECT: latest draft of China paper

TO: Jefferson B. Seabright (CN=Jefferson B. Seabright/OU=WHCCTF/O=EOP@EOP [WHCCTF])
READ:UNKNOWN

TO: Ronald Minsk (CN=Ronald Minsk/OU=OPD/O=EOP@EOP [OPD])
READ:UNKNOWN

TO: John D. Gibson (CN=John D. Gibson/OU=WHCCTF/O=EOP@EOP [WHCCTF])
READ:UNKNOWN

TO: doniger.david@epa.gov (doniger.david@epa.gov [UNKNOWN])
READ:UNKNOWN

TO: Ian Bowles (CN=Ian Bowles/OU=CEQ/O=EOP@EOP [CEQ])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Roger S. Ballentine (CN=Roger S. Ballentine/OU=WHO/O=EOP@EOP [WHO])
READ:UNKNOWN

TO: fritzjd@state.gov (fritzjd@state.gov [UNKNOWN])
READ:UNKNOWN

TO: mark.mazur@hq.doe.gov (mark.mazur@hq.doe.gov [UNKNOWN])
READ:UNKNOWN

TO: ROBERT.CUMBY (ROBERT.CUMBY @ DO.treas.gov [UNKNOWN])
READ:UNKNOWN

TO: David B Sandalow (CN=David B Sandalow/OU=CEQ/O=EOP@EOP [CEQ])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Adele.Morris (Adele.Morris @ do.treas.gov [UNKNOWN])
READ:UNKNOWN

CC: dmarsh@state.gov (dmarsh@state.gov [UNKNOWN])
READ:UNKNOWN

CC: hohenstein.william (hohenstein.william @epamail.epa.gov [UNKNOWN])
READ:UNKNOWN

CC: Schwengels.Paul@epamail.epa.gov (Schwengels.Paul@epamail.epa.gov [UNKNOWN])
READ:UNKNOWN

CC: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: ray.squitieri (ray.squitieri @ do.treas.gov [UNKNOWN])
READ:UNKNOWN

CC: phil.tseng@hq.doe.gov (phil.tseng@hq.doe.gov [UNKNOWN])
READ:UNKNOWN

CC: Garbaccio.Richard@epa.gov (Garbaccio.Richard@epa.gov [UNKNOWN])
READ:UNKNOWN

CC: BENKOVIC.STEPHANIE@epa.gov (BENKOVIC.STEPHANIE@epa.gov [UNKNOWN])
READ:UNKNOWN

CC: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

I apologize for the delay in circulating the most recent draft of the China paper. Please note that the bulk of the paper is unchanged from the last draft. We have tried to incorporate all written comments received and tried to reflect views expressed at the last meeting. There is a new executive summary, a new summary at the end of the paper, modifications to the description of CDM, and additional description of modeling simulations on China's participation in trading. There are 2 small data gaps, but we have been promised the data to fill these in by noon on Wednesday.

Obviously, the executive summary is crucial, and it is not where it needs to be yet, so I solicit a critical review in terms of message, tone, and wordsmithing. (John Gibson -- any help you can provide would be great.)

I have been informed by OVP that there is interest in sending this analysis as an attachment to a letter from Vice-President Gore to Premier Zhu prior to the Clinton-Jiang bi-lateral scheduled in New Zealand. Thus, we are operating on a very short schedule. I would appreciate it if your agency could clear on the body of the analysis (all except the executive summary) by COB Thursday. Comments on the executive summary would be greatly appreciated as soon as possible. Our aim is to finalize the

document before the weekend to allow for sufficient time for fact-checking, translation and shipping. Please do not hesitate to call me at 395-1455. Thank you in advance for your thoughts and suggestions on this draft.
Have a nice day.

Joe

(Note to CEA: hard copies have been left for you in your in-boxes.)

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:
Unable to convert ARMS_EXT:[ATTACH.D58]ARMS21283634F.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China
September 1999

The Economics of Greenhouse Gas Emissions Abatement in China

Executive Summary

International efforts to address the risks associated with climate change recognize the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol could serve as the foundation for an international emissions market that would facilitate the transfer of capital and technology to the countries where emissions can be abated at least cost. This international emissions market provides the potential for low-cost abating countries to create an export industry – whose export products are emissions abatement – that could be financed through foreign direct investment. Since China can abate greenhouse gas emissions at lower cost than other countries, it has the opportunity to attract investment for energy and industrial technologies that abate emissions and can then sell emissions credits or allowances to countries with higher abatement costs. Attracting investment to develop cleaner sources of energy would also result in lower local air pollutant emissions that cause significant public health impacts. By participating in the Kyoto Protocol, China could generate billions of dollars in revenues annually through the sale of abated emissions and provide substantial local air quality benefits.

The Kyoto Protocol calls for the design of several market-oriented mechanisms that, if designed and implemented efficiently, could provide the foundation for a global emissions market. Through the Kyoto Protocol's Clean Development Mechanism and international emissions trading, countries with low emissions abatement costs could take advantage of the opportunity to “produce” emissions abatement and to “export” certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry. The Clean Development Mechanism (CDM) – where a country with an emissions target can invest in projects resulting in emissions abatement in countries without emissions targets and thereby generate an emissions credit to be used to comply with a target – effectively incorporates the economic value of emissions abatement for project finance consideration by investors. By including the additional stream of economic benefits associated with abating greenhouse gas emissions, the CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise.

While the CDM can result in the investment in some additional energy projects, international emissions trading holds much greater promise as a vehicle for transferring capital and technology and as a stimulus for cost-effective emissions abatement. Under the Kyoto Protocol, two countries with emissions targets can engage in trades of emissions allowances representing portions of the total amount of emissions a country has under its target. The concept of gains from trade is basically the same in this case as it is for trade in goods and services. The potential gains from trade in emissions could be significant as a result of the large differences in marginal abatement costs across countries.

Consistent with sustainable development objectives, an emissions target for a developing country

could be set above current emissions levels, but below what emissions are forecast to be, without additional abatement policies, during the 2008 to 2012 commitment period. This emissions growth target could provide for continued economic development but with a lower emissions growth rate. Since such a target depends on the forecast of future emissions, some have expressed concerns about uncertainty in forecasting future emissions. To mitigate the risk that a target could be too stringent (or too lax), a target could be indexed to a country's economic performance between now and the start of the 2008-2012 commitment period. A target could then be specified in a way that depends on the future values of economic variables, such as GDP. Such targets would avoid the risk of inadvertent stringency associated with higher than projected economic growth between now and the beginning of the commitment period in 2008.

The potential role for China in a global emissions market could be quite substantial. A set of international economic models have evaluated the potential for a global emissions market to achieve the emissions abatement called for in the Kyoto Protocol. These modeling analyses assume that China adopts an emissions target set at its 2010 forecast emissions level without new abatement policies, and actively participates in international emissions trading. As an illustration of the potential gains from trade, a range of model results indicates that at the global market price for emissions abatement, China would find it economic to abate emissions 15 to 24% below projected 2010 emissions levels, and sell emissions allowances valued at \$6 to \$14 billion annually. China has the potential to enjoy gains from trade because of its low abatement costs. For example, one model finds that it costs China less than any other country or region in the world to abate 10% of its emissions in 2010. Several other international models confirm that China has lower abatement costs than virtually any other country in the world. Targets set slightly below business as usual could generate substantial gains from trade. However, more stringent targets would reduce, and could eliminate, the gains from trade.

Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, since both kinds of emissions are by-products of fossil fuel combustion. Local air pollution levels in many urban areas in China are several times higher than World Health Organization recommended levels. These high air pollution levels in China have resulted in lost workdays, hospital and emergency room visits, and chronic bronchitis with estimated economic costs of more than \$20 billion annually. Further, agriculture and forestry damage from air pollution affects commodities valued at more than \$4 billion annually in China's economy. By taking advantage of its position as a low-cost producer in the global greenhouse gas emissions market, China could attract investment in the energy and industrial technologies necessary to significantly address the high levels of local air pollution affecting the Chinese people and economy.

The Economics of Greenhouse Gas Emissions Abatement in China

Over the past two decades, China has experienced an impressive rate of economic growth. Between 1978 and 1997, the size of the economy increased from the 18th largest to the 7th largest in the world (in market exchange rate terms), per capita incomes increased by nearly 450%, and energy consumption more than doubled. Like virtually all countries in the world, economic growth was accompanied by the growth of greenhouse gas emissions, especially carbon dioxide.

Emissions of greenhouse gases from all countries pose a risk to the global climate. International efforts to address these risks in Rio de Janeiro in 1992 and Kyoto in 1997 recognize the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol calls for the design of mechanisms that will facilitate the transfer of capital and technology to the countries where emissions can be abated at least cost. A country that can abate greenhouse gas emissions at lower cost than others has the opportunity to attract investment for climate-friendly technology that abates emissions and can then sell emissions credits or allowances to countries with higher abatement costs. Effectively, the Kyoto Protocol provides the potential for low-cost abating countries to create an export industry – whose export products are emissions abatement – that could be financed through foreign direct investment.

What is the potential for a fast-growing economy such as China's to create and benefit from the export of emissions allowances? The economic literature indicates that China has the opportunity to abate more greenhouse gas emissions at a lower cost than any other country. Selling these abated emissions through the Kyoto mechanisms could attract billions of dollars of investment per year that could finance technology leap-frogging in the energy generation and industrial production sectors. In addition, abating carbon dioxide, for example by improving combustion efficiency of coal power plants, would reduce emissions of local air pollutants that carry significant economic costs through lost worker days, additional health care expenses, and premature mortality. The potential is clearly available for China to be better off economically through the development of an emissions abatement export industry.

This paper provides an overview of this potential drawing from economic research on China conducted by academic, industry, and government analysts from around the world. First, the paper presents a description of the trade-oriented mechanisms in the Kyoto Protocol that will promote capital and technology flows to support emissions abatement. Second, it reviews the extensive literature on the potential economic gains associated with participation in the Kyoto mechanisms. Finally, it describes the potential improvement in public health associated with abating emissions of local air pollutants that usually accompany carbon dioxide abatement.

I. Opportunities to Participate in Kyoto Flexibility Mechanisms

The Kyoto Protocol establishes three mechanisms that, if designed and implemented efficiently, could provide the foundation for a global emissions market. Through international emissions trading (Article 17), joint implementation (Article 6), and the Clean Development Mechanism (Article 12), an emissions allowance or credit would have economic value in the international emissions market.

Since greenhouse gas emissions have the same climatic consequences regardless of where they occur, the least-cost approach to addressing the risks of climate change would be to reduce emissions wherever such reductions are cheapest. This implies that emissions abatement has the economic property of a commodity, which facilitates the evolution of a market where entities that demand emissions abatement (e.g., those with relatively high abatement costs) can funnel capital and/or technology to suppliers of emissions abatement. In such a market, countries with low emissions abatement costs could take advantage of the opportunity to “produce” emissions abatement and to “export” certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

This potential evolution of an international emissions market reflects some of the experiences and lessons learned from the international trade in a variety of financial assets, goods, and services. The concept of gains from trade is basically the same as it is for trade in goods and services. For example, Frankel (1999) notes that developing countries could “specialize in installing clean new-technology power-generation capacity, while industrialized countries specialize in producing the capital goods that go into those plants” (p. 4). Toman et al (1998) also note that “[t]hose countries which find themselves with lower abatement costs and more generous emission ceilings can generate a valuable commodity to export” (p. 3). Thus, developing countries would export emissions abatement, and use their export revenues to import, among other things, these new energy technologies.

The gains from trade in emissions allowances occur as a result of the large differences in marginal abatement costs across countries. Weyant and Hill (1999) note that “if the marginal cost in any country participating in a trading regime is higher than in any other participating country, it is advantageous to both countries for the higher cost country to buy emissions rights at a price that is between the two marginal costs” (p. xvii). However, before reviewing the estimated marginal costs across countries, it is important to understand how the Kyoto Mechanisms, specifically the Clean Development Mechanism and international emissions trading, could serve as the necessary foundation of an international emissions market.

A. The Clean Development Mechanism

The Clean Development Mechanism (CDM) was incorporated in the Kyoto Protocol to 1) promote sustainable development; 2) contribute to the Framework Convention’s climate objective of

stabilizing greenhouse gas concentrations at a safe level; and 3) assist the industrialized countries with Kyoto Protocol emissions targets in complying with their commitments (Toman et al 1998). Developing countries participating in CDM projects do not have their own quantitative emissions targets like developed countries. The CDM allows developed and developing countries to work together to design and implement projects in developing countries that abate greenhouse gas emissions. These projects must undergo a review process to certify that the emissions reductions are real in that total emissions are below what they would have been otherwise. In addition, a portion of the emissions credits generated by the project would support an adaptation fund for low-income countries especially vulnerable to climate change and for administrative costs of the CDM. Under the Buenos Aires Plan of Action, the rules for the Clean Development Mechanism are scheduled to be developed by the sixth Conference of the Parties.

The Clean Development Mechanism effectively incorporates a new factor – the economic value of abating greenhouse gas emissions – for project finance consideration by investors. The emissions abatement certified through the CDM would have economic value because developed countries will demand emissions abatement under the Kyoto Protocol. For example, a U.S. firm may evaluate the opportunity to invest in an energy production project such as an advanced technology coal plant in China. In evaluating this project, one of the critical determinants in the decision to invest in the project is the rate of return to the investor. Without the CDM, the investing firm would assess the traditional financial characteristics associated with the project to calculate the rate of return. With the CDM, the investing firm would also account for the economic value associated with the certified emissions reductions that would accrue from the project going forward. Without CDM, the project may not have a sufficient rate of return to justify investment. However, with the CDM, the project may generate enough economic benefits to justify investment. By including the additional stream of economic benefits associated with abating greenhouse gas emissions, the CDM can leverage investment in clean energy and other greenhouse gas abating projects that would not likely happen otherwise.

In addition to firms in developed and developing countries working together to design and implement specific projects, some have suggested that governments could cooperate to design project “fast-track” processes (Chayes 1998). To reduce some of the transaction costs associated with participating in the CDM, two countries could design a fast-track process that makes the project approval process more transparent to the private sector and simplifies the rules for approval. Others have suggested that smaller CDM projects might be bundled, or that a standard for calculating emission reductions might be employed to further reduce transaction costs.

However, even these efforts to promote sustainable development by increasing the number of CDM projects probably would result in a likely volume of capital and technology flows much smaller than that expected for a country with an emissions target that is participating actively in international emissions trading. The CDM carries with it several transaction costs, such as project approval and certification, the adaptation charge, and a charge to cover administrative expenses that together reduce the potential cost-effectiveness of this approach relative to a less-burdened emissions trading

system. It should also be noted that developing countries that adopt emissions targets could be able to participate as a host to CDM projects until the beginning of the commitment period, at which time, it would begin to participate in international trading.

B. International Emissions Trading

Articles 3 and 17 of the Kyoto Protocol allow countries with binding targets to meet their targets by participating in international emissions trading.¹ These binding targets take the form of an “assigned amount” – the number of metric tons of greenhouse gases that may be emitted by sources within the country during the five-year commitment period running from 2008 through 2012. In emissions trading, one country transfers part of its assigned amount to another. This transfer of assigned amount lowers the number of tons of greenhouse gases that the first country may emit between 2008 and 2012, and raises the number of tons that the second country may emit by an equal amount. It is useful to think of each one-ton unit of assigned amount as a tradable allowance for one ton of emissions that may be transferred between countries.

Because the cost of controlling greenhouse gases differs by large amounts from country to country, emissions trading will allow substantial gains from trade in meeting the Kyoto targets. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can sell tradable allowances that they will not need. Countries facing the most expensive emissions abatement measures have incentives to buy less costly allowances from others. Since greenhouse gases are global pollutants, the environmental impact of reducing them is the same no matter where the reductions take place. The same overall reduction is achieved, total costs are reduced, and both buyers and sellers gain from the savings allowed by trading. As a result, the international community will be able to afford greater emissions reductions over the longer term while countries selling allowances will receive additional financial in-flows to assist in their economic development.

A country that wants to increase the number of tons of greenhouse gases that it is allowed to emit would seek out other countries that are willing to sell some of their tradable allowances. Buying and selling countries could arrange their transactions directly or use brokers or exchanges. Because of the voluntary nature of trading, a selling country would engage in a trading transaction only if it makes that country better off.

In addition to trading at the governmental level, some countries (including the United States) plan to use both domestic and international emissions trading at the company level as part of their program to meet their Kyoto Protocol commitments. Companies and other legal entities subject to these domestic trading programs (integrated with the international trading system) would have strong

¹ These countries with binding targets include most OECD countries, several eastern European countries, and some former Soviet Union countries. This set of countries is often referred to as Annex I countries. All other countries in the world are often referred to as Non-Annex I countries in the climate policy context.

incentives to look constantly for innovative ways to abate their greenhouse gas emissions. Those who found inexpensive opportunities to abate their emissions could sell the allowances they do not need to other companies or countries who face higher costs. Further, some companies that have climate-friendly technology may find it cost-effective to transfer this technology to facilities in a low-cost abatement country in return for tradable allowances. Countries selling emissions allowances will, therefore, not only benefit from new financial flows but also from increased technology transfer. These tangible rewards for innovation should provide the incentive for research and development and subsequent technological breakthroughs (Petsonk et al 1998).

As stated above, the Kyoto Protocol stipulates that countries must have an emissions target to engage in international emissions trading. Since the Kyoto Conference, several developing countries have expressed an interest in emissions targets. Consistent with the Framework Convention on Climate Change, targets for developing countries should help promote their sustainable development. To do so, such targets should accommodate emissions growth. Unlike targets currently set in the Kyoto Protocol, which were set below most countries' current emissions levels, such a target for developing countries could be set above current emissions levels. To contribute to the international effort to address climate change risks, such targets must result in real abatement of emissions below levels that would otherwise occur during the commitment period – that is, below the projected business as usual (BAU) emissions level.² This kind of target, often referred to as an emissions growth target, could provide for continued economic development but with a lower emissions growth rate.

If developing countries were to agree to binding limits, even if they involved only small cuts below BAU in the first budget period, then such targets, with trading, would imply gains for their

² The term “business as usual emissions level” as used in this paper is synonymous with the term “reference emissions level.”

economies and gains for the environment. Figure 1 provides an illustration of an emissions growth target. Such a target could be expressed as some percentage of a base year, in a similar fashion to current Kyoto Protocol targets, but perhaps with a different base year and/or a percentage greater than 100% to account for emissions growth.

An emissions target could also take alternative forms. Some have expressed concerns about the uncertainty associated with BAU emissions projections (Baumert et al 1999). A country that takes on a commitment for the 2008-2012 period that is fixed *now*, faces the risk, for example, that its economy will grow more rapidly than expected, resulting in an inadvertently stringent target. Alternatively, a country's economy could grow less rapidly than expected, resulting in an inadvertently lax target. There are, however, ways of designing targets to reduce uncertainty and mitigate these risks. In particular, targets could be indexed to future values of economic and other, possibly demographic, variables.

A target could, for example, be indexed to a country's economic performance between now and the start of the 2008-2012 commitment period (Frankel 1999). This approach is used in the private sector, where contracts are frequently indexed to various economic variables. This approach is also used in the public sector (e.g., the U.S. government provides cost-of-living adjustments for social security recipients). A target could then be specified in a way that depends on the future values of economic variables, such as GDP. For example, Baumert et al (1999) have argued for a carbon-to-GDP intensity measure as an appropriate form of developing country commitment. Zhang (1999) also discussed a greenhouse gas emissions per unit GDP measure as the basis for a voluntary commitment by China around 2020.

Such targets would avoid the risk of inadvertent stringency associated with higher than projected economic growth between now and the beginning of the commitment period in 2008. Developing countries would face only the much smaller risk that emissions would be higher than expected, *given* the economic conditions realized in 2007. Similarly, such targets would also avoid the risk of inadvertent laxness associated with lower than expected economic growth between now and the start of the commitment period.

II. Economic Gains from the Clean Development Mechanism and Emissions Trading

A variety of economic models have been developed throughout the world that can evaluate the potential economic gains from trade in emissions allowances. These economic tools effectively model trade in emissions as if they were any other internationally tradable commodity where both production costs and demand vary across countries. However, before reviewing the summary of model results for China, it may be useful to consider some relevant statistics regarding China's projected energy trends. These data will facilitate an understanding of and provide some context for the model results presented below.

A. Illustrative Energy and Economic Statistics

China's economy is expected to continue growing at a strong pace. The International Energy Agency (1998) projects China's economy will grow 5.5% for the 1995-2020 period, while IEA projects OECD countries' GDP to grow on average about 2% over this time period. The higher economic growth rate will likely result in a higher emissions growth rate. However, projected emissions in China are estimated to grow at a slower rate than GDP growth, consistent with the declining energy-to-GDP ratio trend of the past twenty years (IEA 1998, CCCC 1999).

Forecasts of emissions growth through 2010 across six different business as usual projections appear to be fairly similar (figure 2). The differences in projections also appear to be influenced by different economic growth rate assumptions. Indeed, energy-to-GDP projections by many of these analysts follow very similar trends of continued improvement. These forecasts illustrate that the recent decoupling of greenhouse gas emissions and economic growth will likely continue into the future.

Because of the higher growth rate, China has more opportunities than many OECD countries to

reduce emissions relative to baseline projections by installing new greenhouse gas-efficient plants and adopting other new technologies. In contrast to retrofitting existing plants, new investment in greenhouse gas-efficient plants is a less costly approach to abate emissions.

The faster economic growth expected in China implies a higher rate of investment than most OECD countries. For example, investments in electric power generation in China are projected to comprise

nearly $\frac{1}{4}$ of total world generation investment between 1995 and 2010 (figure 3). Many of these Chinese investment projects are likely to increase total generation, while a larger share of OECD investments will likely replace existing power plants. Current Chinese coal plants are about 25 to 33% less efficient than developed countries' coal plants (Fang et al 1998). Investing in power technologies with comparable efficiencies to developed countries' plants could significantly reduce Chinese emissions per unit of electricity generated. Further, one out of every six dollars expected to be invested in transmission systems around the world will be spent in China through 2010. Improving transmission efficiency in China – where transmission losses are twice those found in developed countries and can range up to 30% (Ni and Nien 1998) – through these investments can further reduce emissions per unit of energy consumed.

Differences in energy efficiency between China and developed countries also exist in various industrial sectors. Table I illustrates some of these differences in industrial production activities. As these industrial sectors in China evolve, new investment could be leveraged by the value derived from generating emissions abatement to install more advanced, more energy-efficient production technologies.

Table 1. Comparison of Physical Energy Efficiency in Industrial Production between China and Western Countries

Production Activity	China	Western Countries
Industrial Boiler	55-60%	75-80%
Industrial Furnaces	20-30%	50-60%
Thermal Electrical Power	25-30%	35-40%
Steel Industry	1.0 tce/ton of output	0.7 tce/ton of output
Synthetic Ammonia	2.1 tce/ton of output	1.15 tce/ton of output
Cement	0.2 tce/ton of output	0.13 tce/ton of output

Source: Fang et al 1998, p. 125.

As per capita incomes continue to rise in China, the number of motor vehicles per capita is projected to increase much faster (figure 4). Between 1996 and 2010, motor vehicles per capita is projected to triple, and then double again by 2020 (EIA 1999). Since Chinese fuel intensity in highway transport is 25% higher than in developed countries, and domestic-made vehicles consume 30-40% more fuel than comparable import vehicles (Lin and Polenske 1998), this growth in vehicle usage could significantly increase emissions. However, this differential in fuel economy also illustrates another potential opportunity to improve energy efficiency as the transportation sector continues to expand, in part by improving the technologies incorporated in vehicles made in China.

B. Clean Development Mechanism

The Clean Development Mechanism can serve as a vehicle for transferring technology from developed countries to developing countries. In addition, CDM projects can provide investment opportunities for clean energy technologies developed within developing countries. CDM projects will attract investment from firms in developed countries if they generate a sufficient economic return, which includes the value of the certified emissions reductions. The technologies to be diffused through the CDM most likely will be focused in the energy sector.

China has many options for improving efficiency in the energy sector with the continued use of coal.

For example, Atmospheric Fluidized Bed Technology (AFBT) achieves thermal efficiency rates of 34-37% by combusting a circulating mixture of coal and gas. If an AFBT plant of X MW displaced a X MW Y coal-fired plant that was part of China's base load, then X million metric tons of carbon (MMTC)³ per year could be abated. Further, Integrated Gas Combustion Cycle (IGCC) is the state of the art in electricity generation from coal. IGCC employs coal gasification along with gas turbines to achieve efficiency rates of 38-45% with SO₂ removal technology in place (Fang 1998). Desulfurization efficiency can reach levels as high as 99%, and the technology can reduce levels of NO_x formation by 25% to 50% when compared to a traditional pulverized coal plant (Government of China 1996). An IGCC plant displacing the same Y coal-fired plant discussed above could abate X MMTC annually.

China has extensive potential for the development of wind power especially along the coastline and in the north. Large-scale wind projects could directly replace coal plants and can usually start generating electricity within a year of beginning construction. Two examples highlight the potential for wind power. One effort, begun in the 1980s to subsidize rural electrification in Inner Mongolia, has generated 140,000 small systems, employed 15,000 technicians, and fostered 42 Chinese enterprises engaged in wind power development. Another project imported medium scale turbines to create a wind farm in Dabancheng, Xinjiang. Overall, China has about 30 MW of grid-connected wind power in operation (Fang 1998).

In addition to technology investment opportunities in the energy sector, several technologies in industrial sectors could also have potential under the CDM. For example, the direct reduction technique for iron smelting could decrease energy use per unit of output. This process uses gas or liquid fuel and non-coking coal as a reducer to smelt iron. It achieves energy savings of 40-50% over blast furnace methods and can reduce carbon dioxide emissions by 50-60% per ton of steel produced (Government of China 1996).

While the Clean Development Mechanism can serve as an important vehicle for investment and technology transfer, some economists believe that several characteristics of the CDM will cause it to result in fewer economic benefits than a well-functioning international trading system. The process of project review and certification, the adaptation fund, and accounting for administrative expenses will likely increase the transaction costs with a specific CDM project that would not likely occur under an efficient trading system. Further, the project-oriented approach of the CDM may not deliver least-cost abatement first like a tradable permit or tax system. Because of this, some have argued that the CDM will deliver fewer tons of emissions abatement at a given price of carbon than a trading system (MacCracken et al 1999). Indeed, because of the complexity of the CDM, Manne and

3 All data on carbon dioxide emissions are presented in this document in terms of million metric tons of carbon equivalent. One ton of carbon dioxide is equal to 12/44 ton of carbon (this is based on the ratio of the molecular weights of carbon and carbon dioxide). All data on the price of a ton of carbon refer to carbon equivalent.

Richels (1999) assumed that a developing country would be able to generate emissions abatement through the CDM equal to 15% of what it would abate at the same carbon price in an international emissions trading system.

C. International Emissions Trading

A variety of international energy-economic models have been used to evaluate the potential economic implications of the Kyoto Protocol. For example, the Stanford University Energy Modeling Forum coordinated a modeling comparison exercise involving 13 models developed by teams in Europe, the United States, Asia, and Australia. Further, the Organisation for Economic Cooperation and Development (OECD) hosted a workshop in 1998 where 9 modeling teams presented their assessments of the Kyoto Protocol.

These models assess the projected marginal cost of abating carbon dioxide across countries and then estimate the extent of buying and selling in an international emissions market until no further economic gains can be achieved through additional trades – i.e., they find the market clearing price for an emissions allowance. For estimating the marginal cost within a country, most of these models evaluate a country's potential emissions abatement by assuming that such abatement occurs at least-cost. In the case of China, these models depict energy technologies – in terms of energy production, carbon emissions, and costs characteristics – across various sectors and they evaluate how firms modify their investment and consumption decisions in these technologies in response to the cost of emitting a ton of carbon. This incentive – pricing carbon emissions – could be provided through a carbon trading system, analogous to the U.S. sulfur dioxide trading system, or through a carbon tax system, analogous to some of China's current pollution discharge fees (Panayotou 1998). Such a policy approach would provide the incentive to attract greenhouse gas-efficient technologies like those discussed in the CDM section above, but at a higher volume than would be expected under the CDM. These models can then provide estimates of marginal cost (e.g., price of one ton of carbon abatement), emissions abatement by country, capital transfers by country, and measures of total economic costs or benefits.

In scenarios involving non-Annex I countries, these models assume that developing countries adopt emissions targets set at estimated 2010 business as usual emissions levels and participate in international trading. Figure 5 presents results from 12 models that participated in the Stanford University Energy Modeling Forum Kyoto Protocol exercise (EMF-16).

While the price of a ton of carbon emissions may vary across models, three key lessons can be drawn from these results. First, projected gains from trade, especially in expanding trading from Annex I countries to all countries, can be substantial. All the models found that marginal and total costs fell substantially going from Annex I to global trading, because developing countries can undertake low-cost emissions abatement and sell their emissions abatement to Annex I countries. Second, higher rates of economic growth in Annex I countries increase demand for emissions allowances, while higher rates of economic growth in developing countries tend to create more opportunities to substitute greenhouse gas-lean technology, and thus increase supply of low-cost emissions abatement. Third, countries with larger coal shares of total energy have more opportunities to abate emissions through energy efficiency and fuel switching than countries with smaller coal shares.

These model results provide illustrations of the possible characteristics of an international emissions market. What kind of role can China play in this emissions market? Analyses based on the MIT-EPPA model developed by researchers at the Massachusetts Institute of Technology indicate that China may have the lowest marginal abatement cost of any country or region in the world (figure 6).

To abate emissions to 10% below 2010 projected business as usual levels, Japan realizes marginal costs 16 times greater than China. The European Community would experience marginal costs more than 6 times greater than China, while the United States would witness marginal costs nearly 4 times greater. The relative differences in marginal costs increase as countries move from abatement of 10% below 2010 BAU to 20% below 2010 BAU. Further, in the EPPA model, no developing or transition economy countries or regions have marginal costs lower than China's marginal cost. Thus, in this representation of the international emissions market, China would be the lowest-cost producer of emissions abatement. Tol (1999) also reports that China (as the dominant economy in the Centrally Planned Asia component of his FUND model) has the lowest abatement costs of any region or country in his global model. These results are based on the specific technology configurations in

these models, and such technology representations vary some across models.

In addition to having the lowest abatement cost to achieve a percentage abatement below 2010 business as usual, as the largest non-Annex I economy, these modeling results illustrate the potential for China to be the largest producer of emissions abatement. Several of the EMF-16 modeling analyses also confirm the potential for China to produce the largest quantity of emissions abatement.

Ellerman et al (1998) have estimated the marginal abatement cost curve for China with the MIT-EPPA model presented below (figure 7).⁴ With this marginal abatement cost curve, or emissions abatement supply curve, one can estimate the number of tons abated in 2010 at a given price of carbon. In their assessment of global trading, they found that the market price would be \$34/ton of carbon.⁵ At this price, China would find it economic to abate approximately 430 MMTC in 2010. This estimate of emissions abatement is larger in absolute terms than the some other estimates, but because Ellerman et al project a higher emissions growth rate for China, the projected abatement as a percentage of BAU is similar to other models. If China had a target set at 2010 BAU, Ellerman et al estimate that it could sell more than \$14 billion per year in emissions allowances which would

4 The equations in figures 7 and 8 take the form: price of carbon (in 1998 U.S. dollars per metric ton of carbon) is equal to the first coefficient multiplied by the quantity of emissions abated below 2010 BAU (in million metric tons of carbon) plus the second coefficient multiplied by the square of the quantity of emissions abated below 2010 BAU (MMTC).

5 All estimates of carbon prices are in 1998 U.S. dollars per ton of carbon equivalent, unless specified otherwise.

generate gains from trade of about \$9 billion per year during the first commitment period.

MacCracken et al (1999) employed the Second Generation Model (SGM) to evaluate the international emissions market assuming global participation. The SGM includes a China module, developed in coordination with Chinese energy-economic experts. The marginal abatement cost curve for China has then been estimated with SGM model outputs (figure 8). They found that under global participation in the international emissions market, the price for a ton of carbon would be \$29/ton, and China would find it profitable to abate about 340 MMTC in 2010. With a target assumed to be set at 2010 business as usual, exporting emissions allowances representing the

emissions abatement could generate nearly \$10 billion in revenue annually.

In addition to the international economic models used in the EMF-16 exercise, some China specific assessments of abatement potential have been conducted. While these studies cannot explicitly illustrate the potential role of China in an international emissions market, they have the benefit of evaluating the Chinese economy in greater detail, and can provide additional insights about the abatement potential in China.

For example, Garbaccio et al (1999) completed a recent evaluation of a carbon tax on the Chinese economy. Such a tax could mirror other emissions and pollutant charges in China. Garbaccio et al designed a 29-sector computable general equilibrium model based on China's 1992 input-output (I-O) tables. They estimated levels of carbon taxes necessary to abate emissions 5%, 10%, and 15% below business as usual over a 40-year period. Revenues from the carbon tax were recycled to the economy by proportional reductions in labor and capital taxes, although given the higher rates of taxation on capital than labor, this recycling promotes higher rates of investment (under the model assumptions). While GDP falls below projected business as usual in the first year of these three simulations, the investment induced by revenue recycling results in GDP growth above BAU after the first year in all scenarios. In this model, China's emissions could be abated by 15% below business as usual at a cost less than \$10 per ton of carbon equivalent (approximately 30 yuan, in 1992 yuan), which is well below the estimated Annex I trading carbon prices in the EMF-16 model results. This analysis indicates that China can substantially reduce its greenhouse gas emissions while maintaining or even increasing its rate of economic growth. Participating in emissions trading and exporting emissions allowances would provide similar economic benefits and bring in additional capital that could also contribute to economic growth.

Table 2 summarizes some of the findings in the economic-energy modeling literature on the potential economic gains for China in participating in international emissions trading. These results assume that China has an emissions target for the first commitment period set at projected emissions for 2010 under business as usual. With the relatively significant emissions abatement below business as usual reflected in these modeling results, targets set slightly below business as usual could generate substantial gains from trade. However, more stringent targets would likely reduce these gains, and extremely stringent targets – for example, below 1990 levels for greenhouse gases in China – would likely result in direct abatement costs well in excess of sales revenues. Of course, these gains from trade are sensitive to both the international market price for a ton of carbon as well as the abatement opportunities within China. These scenarios assume that all developing countries adopt emissions targets set at 2010 BAU levels. Since some of these countries also have low abatement costs relative to developed countries, this assumption implies that China would have competition in “producing” emissions abatement. To the extent that other relatively large, low-cost developing countries do not adopt emissions targets, the supply of emissions abatement would be less than estimated in these global trading scenarios, and China would witness a higher market price for abating carbon and additional economic incentive to abate more emissions. This would increase both the volume of emissions abatement sold to other countries and the economic value of these sales.

Table 2. Potential Economic Effects of Chinese Participation in International Emissions Trading

Model	2010 Price of Carbon (1998\$)	Emissions Abatement (% below BAU)	Annual Revenues from Sales of Emissions Allowances, 2008-2012
MIT-EPPA (Ellerman et al 1998)	\$34/ton	24%	\$14 billion/year
SGM (MacCracken et al 1999)	\$29/ton	24%	\$10 billion/year
GREEN (van der Mensbrugghe 1998)	\$27/ton	15%	\$6 billion/year
RICE (Nordhaus and Boyer 1999)	\$22/ton		
G-Cubed (McKibbin et al 1999)	\$24/ton	19%	\$7 billion/year
ABARE-GTEM (Tulpule et al 1999)	\$28/ton	19%	\$10 billion/year

In these scenarios, every ton of abatement undertaken by China under a 2010 BAU target would allow it to sell a one-ton emissions allowance to other countries with emissions targets. Because these models assume that emissions abatement occurs at least-cost, every ton abated costs less than the 2010 price of carbon – the price China would receive for selling emissions allowances internationally – except for the last ton abated. In addition to the revenues associated with the sale of emissions allowances, the abatement of emissions could have several other economic effects on China. This opportunity to act as one of the largest suppliers of emissions allowances in the international emissions market could serve to attract more FDI and advanced technology to the energy and industrial sectors that emit the majority of greenhouse gases.

Efforts to abate emissions could have two other countervailing effects on the economy. First, policies such as a carbon tax could provide revenues to the government and afford it the opportunity to reduce taxes on labor and investment. As noted above in the discussion of the Garbaccio et al analysis, such a policy could result in lower carbon dioxide emissions while stimulating investment and increasing GDP in the long run. However, some researchers have found that carbon taxes can exacerbate pre-existing tax distortions in markets, such as labor taxes, and this could have the effect of increasing the costs of abatement (Bovenberg and Goulder 1996). It should also be noted that carbon taxes can partially correct pre-existing subsidy distortions in energy markets, which would reduce the costs of abatement.

Finally, abating carbon dioxide emissions often results in the abatement of local air pollutants, such as sulfur dioxide, particulate matter, and nitrogen oxides that cause significant costs in

terms of public health effects as well as agriculture and silviculture damage. The next section reviews the benefits in improving local air quality that accompanies carbon dioxide abatement.

III. Local Air Quality Benefits from Abating Greenhouse Gas Emissions

The same combustion processes that emit carbon dioxide and other greenhouse gases also generate numerous local air pollutants like sulfur dioxide and particulate matter. In its Report on the State of the Environment in China, the State Environmental Protection Administration noted that “atmospheric pollution results mainly from coal-burning” (SEPA 1998, p. 8). This is true for both global and local pollutants. By reducing carbon dioxide emissions through the use of coal substitutes and the adoption of more efficient coal combustion methods, China can simultaneously abate greenhouse gases and improve local air quality.

A. Local Air Quality

Local air quality is the most immediate environmental threat facing China. As figures 9 and 10 show a number of China’s cities regularly encounter more than 2 times the World Health Organization’s recommendations for levels of sulfur dioxide (SO₂) and nitrogen dioxide (NO₂).

In recent years, the level of pollutants has stabilized due primarily to two countervailing effects (Florig 1997). First, more efficient power generation technology and the use of pollution control devices have reduced emissions from industrial sites. Second, household pollution, primarily a result of cooking and heating with coal, increased substantially, leaving the total pollution levels constant. Estimates from the World Bank (1997), however, show particulate emissions increasing 39% and household smoke increasing 90% between 1995 and 2020.

B. Costs of Local Air Pollution

A number of studies have analyzed the relationship between current high levels of local air pollutants and health problems. Xu Zhaoyi and associates at the Liaoning Public Health and Anti-Epidemic Station estimated that indoor and outdoor pollution cause 60% of urban chronic obstructive pulmonary disease cases (Florig 1997). Research by Xu Xiping at the Harvard School of Public Health and his colleagues found that a one-percent increase in SO₂ and total suspended particulates (TSP) levels increased the number of non-surgical visits by 20% and 17%, respectively (Xu et al 1995a; Xu et al 1995b). Xu Zhaoyi and Xu Xiping have also estimated the effects of pollution on mortality rates in Shenyang and Beijing respectively (Xu 1998). In Beijing, a doubling of SO₂ levels increased the mortality rate by 11% while in Shenyang, mortality increased by 2% for each 100 µg/m³ of SO₂ and by 1% for each 100 µg/m³ for TSP. The World Bank (1997) estimates that the economic costs from lost work hours, hospital and emergency room visits, and chronic bronchitis at more than \$20 billion per year in China.

Researchers have also documented the effects of pollution on children. Liu Yulin of the Institute of Pediatrics in Beijing found that children's chances of contracting pneumonia doubled if they lived in a home with coal stoves or adults who smoked. He Qingci of the Wuhan Environmental Protection Institute showed that children from Wuhan's urban areas had lung capacities 5% smaller than children from the suburbs where outdoor TSP levels are 50% lower (110 µg/m³ vs. 251 µg/m³). Finally, Xu Zhaoyi found "up to four times more rhinitis, pharyngitis, and tonsillitis [inflammation of the nasal mucous membrane, pharynx, and tonsils, respectively] among children living in areas of

heavier outdoor pollution” (Florig 1997).

While these estimates demand consideration, they should be used with caution. This area of epidemiology has a relatively short history compared with other disciplines. As a result, many of the studies ignore the effects of pollution levels over time and may not adequately control for the presence of covariates that could magnify or diminish the estimated effects of pollution levels on public health. This criticism notwithstanding, the Working Group on Public Health and Fossil-Fuel Combustion (1997) estimates the number of potential lives that could be saved from particulate matter (PM) alone through a 10% reduction from business as usual over the 2000 to 2020 period. The authors project that 1.5 million premature deaths could be avoided in Centrally Planned Asia.⁶ Since the study assumes an immediate reduction in the mortality rate after a reduction in PM concentrations, the actual number of premature deaths avoided may extend beyond 2020. Additionally, the study does not account for other causes of death, which brings into question the actual number of life-years these statistical lives represent. By assuming PM distributions similar to the United States, however, the authors underestimate the number of deaths because of China’s higher use of coal and residential reliance on coal and biomass stoves.

In addition to public health effects, local air pollution adversely impacts agricultural and silvicultural production activities. The World Bank (1997) estimates that the share of farming and forestry output damaged by sulfur deposition is more than 5% of total economic output in these industries in several provinces. This damage affects commodities representing a value of perhaps more than \$4 billion annually in the Chinese economy.

C. Options for Carbon Dioxide Abatement and Local Air Quality Improvement

The future increases in pollution levels reflect the growth of numerous pollution sources, including new power plants, household heating sources, and automobiles. China has set a goal of 95% electrification by the year 2000, and to that end, electricity capacity has increased by 200% between 1980 and 1994. Because Chinese generators tend to be small, to run for long life spans, and to have low efficiency levels, significant potential exists both to improve ambient air quality and to generate credits for carbon abatement under an emissions target. Even relatively simple policies such as washing and screening coal could both improve air quality and generate more efficient power, reducing levels of carbon dioxide emissions (Murray and Rogers 1998).

To reduce congestion on public transportation and to improve commercial service, China has begun encouraging the use of automobiles. Between 1983 and 1990, the automobile stock increased from 1.8 million to 8.2 million and road transportation volume increased at an average annual rate of 13.5% for both passengers and freight while rail volume only increased 7.7% and 5.6% for passengers and freight, respectively (Lin and Polenske 1998). China’s emissions standards and automotive technology are similar to those of the west in the 1970’s; compared to foreign vehicles,

⁶ Centrally Planned Asia includes China, Laos, North Korea, and Vietnam.

Chinese vehicles emit “2.5 to 7.5 times more hydrocarbons, 2 to 7 time more nitrous oxides, and 6 to 12 times more carbon monoxide” (World Resources Institute 1998). These trends are challenging in themselves, but also offer substantial opportunities for simultaneous reductions in local air pollutants and carbon dioxide emissions through improved highway infrastructure and the use of more recent automotive technology.

Finally, most Chinese residents rely on coal and biomass stoves for cooking and heating. These also constitute the main sources of indoor air pollution. If other energy options develop such as natural gas or electricity, then the adoption of gas furnaces or electric appliances would provide an obvious route to reducing pollution levels, perhaps by substantial amounts. Such steps would tend to reduce greenhouse gas emissions, as well. Absent these developments, however, options still exist. China’s cities, for example, are very dense. This may allow a more centralized control of pollution emissions through large scale heating systems that service multiple housing units (Fang et al 1998).

IV. Summary

The Kyoto Protocol has the potential to create the incentives necessary for a global greenhouse gas emissions market to evolve. This market would serve as a critical vehicle for countries and private firms to participate in the transfer of capital and technology to the countries where emissions can be abated at least cost. A review of the existing economic literature illustrates that China has significant potential to abate greenhouse gas emissions at low cost, thereby providing an opportunity for it to act as a major supplier of emissions abatement in this global market. While the Clean Development Mechanism can attract some investment in climate-friendly technologies, most economists believe that more substantial economic gains can accrue from an appropriately designed emissions growth target and active participation through international emissions trading. The global emissions market would provide the incentive to China to abate emissions of greenhouse gases, providing the opportunity to sell emissions allowances potentially valued in the billions of dollars annually. In addition, the abatement of carbon dioxide would deliver the substantial benefit of reducing emissions of local air pollutants and improving air quality in many urban areas in China.

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RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 17:58:32.00

SUBJECT: China paper

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
Robert,

I received a cryptic voice mail from David Doniger about the China paper. He said he will fax over soon an outline of a paper with a broader message -- basically, it appears that EPA wants to rewrite the paper with an environmental message, where our gains from trade message is a smaller aspect of it (and our paper could serve as an annex or subsequent paper).

EPA made no written comments on our last draft. This is a completely new take, and given that we basically have interagency clearance on our document, this is a rather surprising move by EPA. Based on the request we received from OVP, our document is supposed to detail the economic potential of Kyoto so as to influence the economic and trade advisors to Zhu. I doubt the EPA take on this issue would carry this message as strongly as we have tried here.

David noted that he will fax to you and Loy (and cc me) a note from Perciasepe and Nitze (Asst Administrators at EPA) on this issue, with the suggested outline. If David calls you, I would suggest pushing back hard. In addition, I think it is important to note that our analysis is not strictly based on our view of how to influence the Chinese, but is responsive to what Fuerth has requested.

I actually have dinner plans and then a ticket for the Springsteen show (sometimes I can be a slacker I suppose), so I am leaving soon. I will come in either later tonight or early tomorrow morning to deal with this. Also, John Gibson of the Climate Change Task Force will be emailing me tonight a revised executive summary. I will share that with you tomorrow. Feel free to call me at home and leave a message on this (328-1126).

Joe

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lael Brainard (CN=Lael Brainard/OU=OPD/O=EOP [OPD])

CREATION DATE/TIME: 1-SEP-1999 10:43:26.00

SUBJECT: P5

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Hoping you could come today prepared to present some analysis/reasoning on economic considerations, eg economic significance, trade creation, trade diversion, is this a "natural" FTA in Jeff's parlance. Matt Schaefer spoke to Victoria about this, but didn't sound like she was optimistic. If possible, it would be helpful b/c few of the people in attendance have any sense that FTAs can be mixed blessings from point of view of global free trade or that some FTAs are economically better than others.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 17:36:05.00

SUBJECT: New Location for 9:15 Mtg tomorrow

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

There are now 6 outsiders attending tomorrow's 9:15 am mtg, so I have moved the meeting to the Conference Rm. (324). Please note change on your calendar.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 18:08:45.00

SUBJECT: Fernald out until the 9th

TO: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Mary E. Jones (CN=Mary E. Jones/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: John C. Williams (CN=John C. Williams/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

I am out from Thursday the 2nd until the morning of Thursday the 9th. If necessary, I can be reached on Martha's Vineyard at 508-645-2639. I'll occasionally check my Fed and hotmail accounts at fernaldj@frb.gov and fernaldj@hotmail.com.

Cheers!

John

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 15:59:52.00

SUBJECT: Phone Message from Prof Richard Cooper

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Prof Richard Cooper
Company: Phone: H: 617-354-4933
FAX: Message: Call him back at # mentioned above before 6 or after 9 this evening, or tomorrow evening. He will be at Brookings on Fri attending the BPEA mtg.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 11:37:18.00

SUBJECT: Pierre Sauve, Time magazine story

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Ms. Jones has called you twice. I guess she is anxious for a response.

----- Forwarded by Lisa D. Branch/CEA/EOP on 09/01/99

11:36 AM -----

eclectic@istar.ca (Deborah Jones)

09/01/99 11:36:46 AM

Record Type: Record

To: Lisa D. Branch/CEA/EOP

cc:

Subject: Pierre Sauve, Time magazine story

To: Robert Lawrence

From: Deborah Jones

for Time magazine, Canadian bureau

Dear Robert Lawrence,

Time magazine is working on a cover story about Canadian leaders under 40, and Canadian bureau chief Andrew Purvis asked me to contact you about one person suggested for the list, trade economist Pierre Sauve, with the OECD, now teaching at Harvard's Kennedy School of Government (in your former position, I believe).

In assessing Dr. Sauve for the list, I'd like to ask you if you have an opinion of how significant his work is in the era of freer and freer trade? Do you think he has influenced the thinking or practice of economists or policy makers? Have you thoughts on his leadership accomplishments and abilities?

I would appreciate it if you could either drop me a note in reply by e-mail, or telephone at the following number.

Thank you for your time and consideration,

Deborah Jones

for Time magazine

phone (604 932 6835, Vancouver, Canada)

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 1-SEP-1999 16:15:32.00

SUBJECT: Phone Message from Deborah Jones

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

Records Management@EOP (Records Management@EOP [UNKNOWN])

READ:UNKNOWN

TEXT:

Contact: Deborah JonesCompany: Times Mag, CanadaPhone: Cell #604-341-6806FAX: Message: Contact: Deborah JonesCompany: Times Mag, CanadaPhone: Cell #604-341-6806FAX: Message: Ask that you call her back on her cell # or e-mail her @ eclectic@istar.ca. She only needs 2 or 3 sentences vouching for Pierre.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 08:57:21.00

SUBJECT: Piere Sauve

TO: eclectic@istar.ca. (eclectic@istar.ca. @ inet [UNKNOWN])

READ:UNKNOWN

TEXT:

Yes, I believe he is an extremely bright and talented policy economist. He is articulate, has great poise and could represent Canada with distinction.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 11:12:53.00

SUBJECT: EPA proposal

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

After speaking with Mike Orfini (OVP) and Roger Ballentine, we decided that it is too late to completely rewrite the paper, and that our draft reflects the message that we want to get across to the econ-types in Zhu's circle. I called David Doniger of EPA to relay to him that their proposal is late and off-point, but I solicited his thoughts on how to portray the air quality benefits bit in the executive summary. Also, David thinks it may be useful to play up air quality issues in the cover letter -- I told him that OVP has the pen on that, and that he should contact them. David apologized for any discomfort this may have caused.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 10:53:25.00

SUBJECT: Morning Meeting for 09/02/99

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

----- Forwarded by Steven N. Braun/CEA/EOP on 09/02/99
10:53 AM -----

Medley_Global_Advisors@medleyadvisors.com

09/02/99 10:32:08 AM

Record Type: Record

To:

cc:

Subject: Morning Meeting for 09/02/99

NOTICE: Forwarding this proprietary email report constitutes violation of
United States and international copyright laws, and will be pursued to the
full extent of the law.

Medley Global Advisors 212-219-9096

(See attached file: mmsep2.pdf)

- mmsep2.pdf

===== ATTACHMENT 1 =====

ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D87]ARMS28708644N.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

MEDLEY GLOBAL ADVISORS

Morning Meeting

September 2, 1999

G-7:

ECB: Liquid Sky

Emerging Markets:

Russia: Summers grabs an option; Kremlin botches a proxy fight

G-7

ECB

ECB DIVIDED OVER VRT MERITS -- BUT HELP IS ON THE WAY FOR TURN FUNDING

Central bankers are having some trouble stripping out exactly how much of the December euribor contract pricing reflects Y2K concerns. They assume it is a great deal of it, and are studying the question. **The ECB has already made some statements to try to assure the market that turn funding will be forthcoming, and we have been told that they will be getting more aggressive on that message in the near future.** We do not have specifics on what the operational ramifications of that message are, but logic would say that an announcement of a long-term financing operation conducted over the turn would allay some of the fears that the markets have of liquidity seizing up in December.

A related issue, but considerably more subtle is the question of adopting a variable rate tender. The messages from the ECB on the issue in the last couple of weeks have been more nuanced than the headlines have indicated. The directorate has not been saying en masse that VRTs are impossible or even undesirable, but rather that they have anxiety about the signalling properties that a move to a VRT would contain for the markets. The nervousness that the ECB is exhibiting is that, with steep rate hikes being priced in, the already-spooked markets might well revert to Bundesbank logic and see a switch to a VRT as validating the current forwards, or even accelerating a trend. **This is the perception the ECB is trying to dispel, trying to delink a technical move to a VRT from its potential policy signalling effect.**

There are also some hints that there is a small group who oppose more generally the additional degree of central bank activism needed in a variable rate world. In the previous VRT operations of central banks like the Bundesbank or the Bank of Spain, for instance, the central bank could guide the banks towards a desired rate even with the volume fixed, but that sometimes left the market underfunded. Then the central bank would step in later to inject more or less liquidity through so called "fine tuning" operations (who can forget the beloved "schnelltender"). Not all board members apparently like the idea of such an activist intervention in the open market.

Diametrically opposed to this attitude, conversations with representatives of national central banks in Europe reveal an ongoing enthusiasm for a switch to variable rate tenders. Private sector banks in most of the euro-zone are more comfortable with these operations, and the kinks of over and underbidding at the present fixed rate tenders have still never been fully worked out. **One NCB official stated flatly to us this week that he thinks that October or November will see the introduction of a VRT if the market permits,** but that they would likely revert to a fixed rate tender over the turn to allay fears of a liquidity crunch well before the ball drops in Times Square.

The bottom line is that, until the directorate feels comfortable that they have succeeded in preparing the markets that a VRT would lead neither to a market panic, nor to chaotic liquidity conditions in what is already a complicated Y2K situation, VRT devotees will have to wait.

EMERGING MARKETS

RUSSIA

TOUGH ON RUSSIA. TOUGH ON THE CAUSES OF RUSSIA

Yesterday's outburst from Larry Summers certainly caught the Russian MinFin by surprise. To the bewilderment of G8 envoy Livshits, Summers said that the US "could not support" further IMF aid until the disposition of prior lending was made clear. Wait a minute, the Russians thought, didn't we just show Camdessus a heapin' helpin' of our hospitality? Didn't we clear this up? Gospodi, we even got a compromise on the Y2K primary surplus! **Livshits was reduced to the weak retort that this represented Summers' personal opinion. Yeah, right. More "personal opinions" are set to be expressed in Washington in the days ahead.**

The reality is that with Congressional investigation of the Russian money-laundering scandal coming up, a Treasury Secretary simply cannot dig in politically. Summers needed some room to maneuver "to at least have the option," and this is precisely what the interview published yesterday did; that doesn't mean that this option will be exercised. After all, Summers was the driving force behind the policy of financial engagement with Russia under Rubin. **But to insist that IMF lending to Russia will continue with Jesse Helms bearing down on you would be a political Gallipoli for the Treasury Secretary,** and he surely has plenty of other things to save political capital for.

This issue has political legs in Washington: the flak will not be limited to Summers' statement. Administration sources have told us that the White House will also express its outrage at the scandal. The Administration is well aware that a "me-too" communication strategy risks spinning out of control: **remember what happened to WTO in April?** Fears of a domestic political backlash derailed a policy decision that had already been made.

In the end, the Russian Finance Ministry may end up being right, if only coincidentally, in its assertion that this wrinkle might delay the next IMF tranche a short while. IFI sources tell us that **for now Camdessus does not consider the scandal serious enough to change policy. However, not everyone in the Fund agrees, and Camdessus is under pressure from some of his lieutenants to postpone the next disbursement.** In a bathetic postscript, Zadornov's announcement that he will step down as IFI envoy once the IMF team leaves Moscow is really the completion of the Putin cabinet shuffle; it has been in the cards for a while.

KREMLIN GAZPROM STRATEGY UNRAVELLING

While the government faces some turbulence from Washington, the Kremlin seems to have hit an air pocket at home. **At first glance, last week's Gazprom shareholder's meeting looks like a marginal victory for the Kremlin** in its unceasing efforts to gain control of the oil & gas giant. After all, the government increased its representation on the 11-person board from 4 to 5. And Moscow tongues flap about how Gazprom boss Vyakhirev saw the FSB dossier on him and his son, documents whose revelations supposedly led Vyakhirev to capitulate to Kremlin demands that Gazprom finance the Kremlin's presidential candidate, rather than the Luzhkov campaign.

But the reality may be different. According to Gazprom insiders, the five state reps on the Gazprom board can be summarized as Chernomyrdin (no longer Yeltsin's errand boy, he is really on Gazprom's side, not the government's) -- plus four dwarfs, none of whom have a real chance of getting access to Gazprom's finances. **Despite the appearances, the Family (and the government) were shut out of the board. Moreover, the public harangue by the Kremlin against Rem Vyakhirev may well have backfired, drawing Gazprom closer to the hated Yuri Luzhkov.**

The failure of the Kremlin strategy to seize control of Gazprom paints Yeltsin further into a corner, as the Primakov- and Luzhkov-led Fatherland-All Russia (O-VR) umbrella continues to whittle away at the sensible fringes of the nationalist-communist bloc. Indeed, Primakov's biggest problem right now (aside from assassination, of course) is that his alliance risks collapsing under its own weight, just like a capsizing dinghy full of boat people.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 19:31:09.00

SUBJECT: Haver DLX demo Sept 22

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: William H. Gillespie (CN=William H. Gillespie/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Stephen F. Lin (CN=Stephen F. Lin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah M. Anderson (CN=Sarah M. Anderson/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah L. Rosen (CN=Sarah L. Rosen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Rosalind V. Rasin (CN=Rosalind V. Rasin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robin L. Lumsdaine (CN=Robin L. Lumsdaine/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Noah Y. Weisberger (CN=Noah Y. Weisberger/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael S. Kosoff (CN=Michael S. Kosoff/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael J. Brien (CN=Michael J. Brien/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary E. Jones (CN=Mary E. Jones/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary A. Thomas (CN=Mary A. Thomas/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mark N. Levine (CN=Mark N. Levine/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Linda A. Reilly (CN=Linda A. Reilly/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John C. Williams (CN=John C. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Douglas V. Almond (CN=Douglas V. Almond/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Christel M. Sice (CN=Christel M. Sice/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Catherine H. Furlong (CN=Catherine H. Furlong/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Carol L. Capece (CN=Carol L. Capece/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Brian A. Amorosi (CN=Brian A. Amorosi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Andrew R. Feldman (CN=Andrew R. Feldman/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Alice H. Williams (CN=Alice H. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

CC: Jason Furman (CN=Jason Furman/OU=CEA/O=EOP@EOP [UNKNOWN])
READ:UNKNOWN

TEXT:

Maurine Haver, president of Haver Analytics, will be coming to CEA
on Wednesday, September 22, at 2:00 p.m.
to demonstrate Haver DLX software.

As most of you are aware, CEA subscribes to several economic databases
from Haver.

These are accessible using software on your desktop:

- DLX View & Graph (in DLX folder in Custom Applications folder)
allows you to view data in graphic and tabular form (and export graphs);

- DLX add-ins in Excel
allow you to find and extract data into spreadsheets.

We are very fortunate to have Maurine come and personally demonstrate how
to use the DLX software.

Even those of you already familiar with Haver DLX could probably benefit
from the demonstration,
as Maurine usually enlightens us about new features that we may not yet be
using.

Please mark your calendars and try hard to attend.

(Exact room location to be determined.

I'll give you a reminder and room location after I return from vacation --
just before Maurine's visit.)

Meanwhile, I've printed copies of current documentation for DLX. Brian
will be distributing it to your in-boxes tomorrow.

It is more current than similar documentation that some of you already
have.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 18:29:49.00

SUBJECT: Mike Porter

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Per David Ranz (fm State), you agreed to call Mike Porter to request a cc of his study. We are to fax the study to Oliver John (@ State) via 647-7453 (o: 647-8054).

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 19:09:58.00

SUBJECT: China executive summary

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: fernaldj@hotmail.com (fernaldj@hotmail.com @ inet [UNKNOWN])
READ:UNKNOWN

TO: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Below is the final and cleared version of the executive summary to the China climate change paper. I sent this to OVP, and it will be translated into Chinese tomorrow and cabled to the U.S. Embassy in Beijing. If there is anything that you think we must change, please let me know asap, and I will arrange to have the editing done (the translation gives us some time). We plan on finalizing the body of the report on Friday.

I spoke with Chad about this, and we will plan to draft a WEB article on this for next week.

Joe

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D72]ARMS25316064J.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China, A Preliminary Analysis
U.S. Council of Economic Advisers
September 1999

The Economics of Greenhouse Gas Emissions Abatement in China, A Preliminary Analysis Executive Summary

International cooperation to reduce the risks of climate change is premised on the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol includes market-based mechanisms that, if designed and implemented efficiently, would provide the foundation for a global greenhouse gas emissions market. This market would offer substantial economic opportunities for countries where emissions abatement is relatively inexpensive, including China. Under an efficient global greenhouse gas emissions market, low-cost opportunities in China to reduce greenhouse gases would attract foreign direct investment for energy and industrial abatement technologies, allowing China to generate billions of dollars in revenues annually through the sale of emissions credits or allowances to countries with higher abatement costs.

Participating in an international greenhouse gas emissions market would also help China gain new technology transfer and investment resources to reduce the high levels of local air pollution, resulting in substantial public health benefits. Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, since both kinds of emissions are by-products of fossil fuel combustion. Local air pollution levels in many urban areas in China are several times higher than World Health Organization recommended levels. This pollution is a significant threat both to China's economy (especially the agriculture and forestry sectors) and to its citizens. As epidemiological research has shown, current pollution levels increase mortality rates, the incidence of chronic illness, and the number of hospital and emergency room visits. One study, for example, estimates that the mortality rate in Shenyang increases by 2 percent for every 100 micrograms per cubic meter more sulfur dioxide in the air. China's position as a low-cost producer in a global greenhouse gas emissions market offers a promising avenue for attracting investment in the energy and industrial technologies necessary to significantly address the high levels of local air pollution.

The Kyoto Protocol's key market-based provisions include the Clean Development Mechanism (CDM) and international emissions trading. These provisions allow countries with low emissions abatement costs to take advantage of the opportunity to "produce" emissions abatement and to "export" certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

Through the CDM, a country with a greenhouse gas emissions target under the Protocol can invest in projects that abate emissions in countries without targets, thereby generating emissions credits or allowances that can be transferred to the first country and used to help meet its target. The additional economic value of the emissions allowances that a project generates provides an incentive for investment, meaning that the CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise.

International emissions trading holds even greater promise as a vehicle for transferring capital and technology and for stimulating cost-effective emissions abatement. Under the Kyoto Protocol, each country with an emissions target has, in effect, an emissions “budget” – a total amount of greenhouse gases that it is allowed to emit into the atmosphere over a given period of time. A country with an emissions target can transfer a portion of its emissions budget to another such country. The incentive to trade these emission allowances stems from the large differences in the marginal costs of emissions abatement across countries. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can sell tradable allowances that they will not need. Countries facing the most expensive emissions abatement measures have the incentive to buy less costly allowances from others. Thus, trading allows the international community to achieve the same overall reduction in emissions at significantly lower cost. At the same time, both buyers and sellers stand to reap significant gains. Countries buying allowances save in abatement costs while countries selling allowances receive additional financial in-flows and increased technology transfer.

The Kyoto Protocol stipulates that a country must have a greenhouse gas emissions target in order to participate in trading. Since the Kyoto Conference, several developing countries have expressed an interest in emissions targets. At the same time, it is broadly recognized that any such targets must be made compatible with developing countries’ legitimate needs and objectives for sustainable development. One way to do so would be for a country to set its target above current emissions levels, but below what emissions are forecast to be without additional abatement policies during the Protocol’s first commitment period (2008 to 2012). Such an “emissions growth target” could provide for continued economic development, but with a lower emissions growth rate. To mitigate the risk that a target could end up being too stringent (or too lax), a target could be indexed to a country’s economic performance between now and the 2008-2012 commitment period. Thus, faster than expected economic growth would result in an upward adjustment in the target.

China stands to reap substantial benefits by participating in an international emissions market. Over the past two decades, China’s economy has grown at an impressive rate and it is now the world’s 7th largest. At the same time, its energy consumption has more than doubled and its greenhouse gas emissions have grown substantially. While China is making impressive strides towards lowering its greenhouse gas emissions intensity (emissions per unit of output), a variety of economic analyses and modeling efforts indicate that there are still many low-cost emissions abatement opportunities in China. Some analyses suggest that China has lower abatement costs than virtually any other country in the world.

By participating in a global emissions market, China would greatly benefit both its economy and its environment. Results from a range of economic models indicate that by taking on an emissions target and actively participating in international emissions trading, China would find it economic to reduce emissions 14 percent to 24 percent below projected 2010 emissions levels and would be able to sell emissions allowances valued at \$4 to \$14 billion annually. Gains from trade would vary greatly depending on the extent to which China’s growth target varied from the business as usual projection.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: DAVID DONIGER <DONIGER.DAVID@epamail.epa.gov> (DAVID DONIGER
<DONIGER.DAVID@epamail.epa.gov> [UNKNOWN])

CREATION DATE/TIME: 2-SEP-1999 14:26:31.00

SUBJECT: latest executive summary -Reply

TO: Ronald Minsk (CN=Ronald Minsk/OU=OPD/O=EOP [OPD])
READ:UNKNOWN

TO: Roger S. Ballentine (CN=Roger S. Ballentine/OU=WHO/O=EOP [WHO])
READ:UNKNOWN

TO: Ian Bowles (CN=Ian Bowles/OU=CEQ/O=EOP [CEQ])
READ:UNKNOWN

TO: David B Sandalow (CN=David B Sandalow/OU=CEQ/O=EOP [CEQ])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John D. Gibson (CN=John D. Gibson/OU=WHCCTF/O=EOP [WHCCTF])
READ:UNKNOWN

TO: mark.mazur@hq.doe.gov (mark.mazur@hq.doe.gov [UNKNOWN])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: dmarsh@state.gov (dmarsh@state.gov [UNKNOWN])
READ:UNKNOWN

TO: miotkes@ix.netcom.com (miotkes@ix.netcom.com [UNKNOWN])
READ:UNKNOWN

TO: ROBERT.CUMBY@DO.treas.gov (ROBERT.CUMBY@DO.treas.gov [UNKNOWN])
READ:UNKNOWN

CC: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

CC: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:
Sorry, Joe, the version sent a minute ago had a couple of typo errors.

Please substitute this one.

>>> <Joseph_E._Aldy@cea.eop.gov> 09/02/99 10:41am >>>

Here is a revised executive summary. Your thoughts as soon as possible are very much appreciated.

Joe

(See attached file: chinaes3.doc)

- CHINAE~1.WPD===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D25]ARMS26784054W.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China

Executive Summary

International ~~efforts~~ cooperation to ~~address the risks associated with~~ reduce the risks of climate change ~~recognize~~ is premised on the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol ~~establishes~~ includes market-based mechanisms that, if designed and implemented efficiently, would provide the foundation for a global market in greenhouse gas abatement measures ~~emissions market~~. This market would offer substantial economic opportunities for countries where emissions abatement is relatively inexpensive, including China. Under an efficient global market for greenhouse gas emissions abatement measures ~~market~~, low-cost opportunities in China to reduce greenhouse gases would attract foreign direct investment for energy and industrial abatement technologies in the energy sector and other industries, allowing China to generate billions of dollars in revenues annually through the sale of emissions credits or allowances to countries with higher abatement costs.

Participating in an international greenhouse gas emissions abatement market would also help China gain new technology transfer and investment resources to reduce the high levels of local air pollution affecting the Chinese people and economy. Attracting investment to develop cleaner energy sources of and more efficient energy use would also mean less air pollution in many Chinese localities, resulting in substantial public health benefits. ~~Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, as well as greenhouse gases, since both kinds of emissions are by-products of fossil fuel combustion.~~ Local air pollution levels in many urban areas in China are several times higher than World Health Organization recommended levels, resulting in lost workdays, hospital and emergency room visits, and chronic bronchitis. The economic cost of these public health hazards is estimated to be more than \$20 billion annually. ~~Furthermore, Damage to China's agriculture and forestry sectors from air pollution has been valued at more than \$4 billion annually.~~ By taking advantage of its position as a low-cost producer in the global greenhouse gas emissions market, China could attract investment in the energy and industrial technologies necessary to significantly address ~~reduce~~ air pollution and improve public health in many Chinese localities.

The Kyoto Protocol's key market-based provisions include the Clean Development Mechanism (CDM) and international emissions trading. ~~Both~~ These provisions ~~would~~ allow countries with low emissions abatement costs to take advantage of the opportunity to "produce" emissions abatement and to "export" certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

Under the CDM, a country with ~~an~~ a greenhouse gas emissions target under the Protocol can invest in projects that abate ~~resulting in emissions abatement~~ in countries without targets, thereby generating emissions credits or allowances that can be transferred to the first country and ~~to be used to help meet its~~ comply with a target. The CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise because the ~~The~~ additional economic value of the emissions ~~allowances~~ credits generated by the project ~~that a project generates~~ provides an incentive for investors; ~~meaning that.~~

International emissions trading holds even greater promise ~~both~~ as a vehicle for transferring capital and technology and for stimulating cost-effective emissions abatement. Under the Kyoto Protocol, each country with emissions targets has, in effect,

an emissions "budget" — a total amount of greenhouse gases that it is allowed to emit into the atmosphere over a given period of time. ~~two countries~~ One such country ~~with emissions targets~~ can ~~engage in trades of~~ transfer a portion of this emissions budget to another. ~~emissions allowances representing portions of the total amount of emissions a country has under its target.~~ The incentive to trade these "emissions allowances" ~~will stem~~ from the ~~potentially~~ large differences in marginal costs of emissions abatement across countries. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can ~~sell tradable~~ transfer to other countries the ~~emissions allowances that they will not need.~~ Countries facing the most expensive emissions abatement measures have incentives to buy less costly allowances from others. Thus, trading ~~will allow~~ the international community to achieve the same overall reduction in emissions at significantly lower cost ~~— and At the same time, both buyers and sellers will~~ countries stand to reap significant ~~economic gains.~~ Countries buying allowances save in abatement costs ~~while countries selling allowances and sellers would receive not only additional financial in-flows but also and increased technology transfer.~~

~~however,~~ the Kyoto Protocol stipulates that a country must have ~~an~~ a greenhouse gas emissions target in order to participate in trading. It is broadly recognized that any such targets must be compatible with developing countries' legitimate needs and objectives for sustainable economic growth. Since the Kyoto Conference, several developing countries have expressed an interest in ~~adopting emissions targets that accommodate continued emissions growth, but at a slower rate than emissions are forecast to grow without additional abatement policies.~~ At the same time, these countries recognize the need for such targets ~~to be consistent with their sustainable development objectives.~~ One way to do so ~~would be for a country to set its target above current emissions levels, but below what emissions are forecast to be, during the Protocol's first commitment period which runs from 2008 to 2012.~~ Such an "emissions growth target" ~~could~~ would provide for continued economic development but with a lower emissions growth rate. To ~~address economic forecasting uncertainties~~ ~~mitigate the risk that a~~ that could cause a target ~~could to~~ end up being too stringent (or too lax), a target could be indexed to a country's economic performance between now and the ~~start end~~ of the 2008-2012 commitment period. Thus, faster than expected economic growth would result in an upward adjustment in the target.

China is one ~~One~~ of the nations that would stand to reap substantial benefits by participating in an international emissions market ~~is China.~~ Over the past two decades, China's economy has grown at an impressive rate and it is now the world's 7th largest. At the same time, its energy consumption has more than doubled and its greenhouse gas emissions have grown substantially. While China is making impressive strides towards lowering its greenhouse gas emissions intensity (the amount of emissions per unit of gross domestic product), ~~a~~ A variety of economic analyses and modeling efforts indicate that there are many additional low-cost emissions abatement opportunities in China. ~~— indeed~~ Indeed, some ~~analyses~~ suggest that China has lower abatement costs than virtually any other country in the world.

Consequently, it is expected that by participating in a global emissions market China would ~~achieve substantial gains from trade, greatly benefitting both its economy and its environment.~~ Results from a range of economic models indicate that by taking on an emissions target some distance below emission levels that are otherwise projected for the 2008-2012 period, and by actively participating in international emissions trading, China would find it economic to reduce emissions 15 to 24% below projected 2010 emissions levels and would be able to sell emissions allowances valued at \$6 to \$14 billion annually. ~~Gains from trade would vary greatly depending on the extent to which China's growth target varied from the business-as-usual projection.~~ Targets set slightly below business as usual could generate substantial gains from trade. ~~More stringent targets would reduce, and could eliminate, the gains from trade.~~

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 20:43:13.00

SUBJECT: network printer from room 317

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: William H. Gillespie (CN=William H. Gillespie/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Stephen F. Lin (CN=Stephen F. Lin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah M. Anderson (CN=Sarah M. Anderson/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah L. Rosen (CN=Sarah L. Rosen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Rosalind V. Rasin (CN=Rosalind V. Rasin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robin L. Lumsdaine (CN=Robin L. Lumsdaine/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Noah Y. Weisberger (CN=Noah Y. Weisberger/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael S. Kosoff (CN=Michael S. Kosoff/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael J. Brien (CN=Michael J. Brien/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary E. Jones (CN=Mary E. Jones/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary A. Thomas (CN=Mary A. Thomas/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mark N. Levine (CN=Mark N. Levine/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Linda A. Reilly (CN=Linda A. Reilly/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John C. Williams (CN=John C. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Douglas V. Almond (CN=Douglas V. Almond/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Christel M. Sice (CN=Christel M. Sice/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Catherine H. Furlong (CN=Catherine H. Furlong/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Carol L. Capece (CN=Carol L. Capece/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Brian A. Amorosi (CN=Brian A. Amorosi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Andrew R. Feldman (CN=Andrew R. Feldman/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Alice H. Williams (CN=Alice H. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:

As part of an ongoing project that Cathy & I have underway to upgrade our printers,
one of our network printers was moved today
 from room 317
 to room 319 (to more conveniently be the default for the 2 PCs
there).

It appears that the network name for the printer was appropriately changed
(to reflect its new location),
to \\PS-6\319A (and \\PS-6\319Aps for the PostScript version of the same
printer).

But I suspect that your previous selection of the 317A printer will not
automatically be converted to the new name.

So, if you have been using the 317 network printer,
you will probably have to re-create it, selecting instead \\PS-6\319A or
\\PS-6\319Aps.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 11:49:25.00

SUBJECT: Phone Message from Roger Porter

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Contact: Roger PorterCompany: Phone: 617-496-4036FAX: Message:

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 11:22:13.00

SUBJECT: Re: EPA proposal

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
Sounds like you handled this well.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: DAVID DONIGER <DONIGER.DAVID@epamail.epa.gov> (DAVID DONIGER
<DONIGER.DAVID@epamail.epa.gov> [UNKNOWN])

CREATION DATE/TIME: 2-SEP-1999 14:35:55.00

SUBJECT: latest executive summary -Reply

TO: Ronald Minsk (CN=Ronald Minsk/OU=OPD/O=EOP [OPD])
READ:UNKNOWN

TO: Roger S. Ballentine (CN=Roger S. Ballentine/OU=WHO/O=EOP [WHO])
READ:UNKNOWN

TO: Ian Bowles (CN=Ian Bowles/OU=CEQ/O=EOP [CEQ])
READ:UNKNOWN

TO: David B Sandalow (CN=David B Sandalow/OU=CEQ/O=EOP [CEQ])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John D. Gibson (CN=John D. Gibson/OU=WHCCTF/O=EOP [WHCCTF])
READ:UNKNOWN

TO: mark.mazur@hq.doe.gov (mark.mazur@hq.doe.gov [UNKNOWN])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: dmarsh@state.gov (dmarsh@state.gov [UNKNOWN])
READ:UNKNOWN

TO: miotkes@ix.netcom.com (miotkes@ix.netcom.com [UNKNOWN])
READ:UNKNOWN

TO: ROBERT.CUMBY@DO.treas.gov (ROBERT.CUMBY@DO.treas.gov [UNKNOWN])
READ:UNKNOWN

CC: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

CC: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:

Joe - This document is much improved. I have also seen Roger

Ballentine's comment regarding the environmental component. Attached are my line edits on the summary, on behalf of EPA, trying to effectuate Roger's suggestion and to help in other areas as an editor.

One minor point. We have placed some emphasis on using the term "abate" in lieu of "reduce". We should determine whether the terms translate differently into Chinese. While "abatement" is a common word in English, I find the term "abate" less clear.

I am about to turn to the draft cover letter. Without having looked at it yet, I think the suggestions in EPA's note from yesterday could be accommodated simply by stating, at an appropriate point in the cover letter, that the US side thinks these ideas may be of value to the Chinese both in trade terms (i.e., an additional export product) and in terms of raising additional financial and technology resources for air pollution abatement and sustainable growth. That plus a suggestion for a high-level follow-on discussion.

>>> <Joseph_E._Aldy@cea.eop.gov> 09/02/99 10:41am >>>
Here is a revised executive summary. Your thoughts as soon as possible are very much appreciated.

Joe

(See attached file: chinaes3.doc)

- CHINAE~1.WPD===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:
Unable to convert ARMS_EXT:[ATTACH.D12]ARMS20387054P.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China

Executive Summary

International ~~efforts~~ cooperation to ~~address the risks associated with~~ reduce the risks of climate change recognize the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol ~~establishes~~ includes market-based mechanisms that, if designed and implemented efficiently, would provide the foundation for a global market in greenhouse gas ~~abatement measures~~ ~~emissions~~ market. This market would offer substantial economic opportunities for countries where emissions abatement is relatively inexpensive, including China. Under an efficient global market for greenhouse gas ~~emissions~~ ~~abatement measures~~ market, low-cost opportunities in China to reduce greenhouse gases would attract foreign direct investment for ~~energy and industrial~~ abatement technologies in the energy sector and other industries, allowing China to generate billions of dollars in revenues annually, through the sale of emissions credits or allowances to countries with higher abatement costs.

Participating in an international greenhouse gas emissions market would also help China gain new technology transfer and investment resources to reduce the high levels of local air pollution affecting the Chinese people and economy. Attracting investment to develop cleaner energy sources of and more efficient energy use would also mean less air pollution in many Chinese localities, resulting in substantial public health benefits. ~~Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, as well as greenhouse gases, since both kinds of emissions are by-products of fossil fuel combustion.~~ Local air pollution levels in many urban areas in China are several times higher than World Health Organization recommended levels, resulting in lost workdays, hospital and emergency room visits, and chronic bronchitis. The economic cost of these public health hazards is estimated to be more than \$20 billion annually. ~~Furthermore, Damage to China's agriculture and forestry sectors from air pollution has been valued at more than \$4 billion annually.~~ By taking advantage of its position as a low-cost producer in the global greenhouse gas emissions market, China could attract investment in the energy and industrial technologies necessary to significantly ~~address~~ reduce air pollution and improve public health in many Chinese localities.

The Kyoto Protocol's key market-based provisions include the Clean Development Mechanism (CDM) and international emissions trading. ~~Both~~ These provisions would allow countries with low emissions abatement costs to take advantage of the opportunity to "produce" emissions abatement and to "export" certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

Under the CDM, a country with ~~an~~ a greenhouse gas emissions target under the Protocol can invest in projects that abate ~~resulting in emissions abatement in countries without targets, thereby generating emissions credits or allowances that can be transferred to the first country and to be used to help meet its comply with a target.~~ The CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise because the ~~The~~ additional economic value of the emissions ~~allowances~~ credits generated by the project ~~that a project generates~~ provides an incentive for investors; ~~meaning that.~~

International emissions trading holds even greater promise ~~both~~ as a vehicle for transferring capital and technology and for stimulating cost-effective emissions abatement. Under the Kyoto Protocol, each country with emissions targets has, in effect,

an emissions "budget" -- a total amount of greenhouse gases that it is allowed to emit into the atmosphere over a given period of time. ~~Two countries~~ One such country ~~with emissions targets can engage in trades of~~ transfer a portion of this emissions budget to another. ~~emissions allowances representing portions of the total amount of emissions a country has under its target.~~ The incentive to trade these "emissions allowances" ~~will stem~~ from the ~~potentially~~ large differences in marginal costs of emissions abatement across countries. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can ~~sell tradable~~ transfer to other countries the ~~emissions allowances that they will not need.~~ Countries facing the most expensive emissions abatement measures have incentives to buy less costly allowances from others. Thus, trading ~~will allow~~ the international community to achieve the same overall reduction in emissions at significantly lower cost ~~and~~ At the same time, both buyers and sellers ~~will~~ countries stand to reap significant economic gains. Countries buying allowances save in abatement costs while countries selling allowances ~~and sellers would receive not only~~ additional financial in-flows ~~but also~~ and increased technology transfer.

~~however,~~ the Kyoto Protocol stipulates that a country must have ~~an~~ a greenhouse gas emissions target in order to participate in trading. It is broadly recognized that any such targets must be compatible with developing countries' legitimate needs and objectives for sustainable economic growth. Since the Kyoto Conference, several developing countries have expressed an interest in adopting emissions targets that accommodate continued emissions growth, but at a slower rate than emissions are forecast to grow without additional abatement policies. ~~At the same time, these countries recognize the need for such targets to be consistent with their sustainable development objectives.~~ One way to do so ~~would be for a country to set its target above current emissions levels, but below what emissions are forecast to be, during the Protocol's first commitment period which runs from 2008 to 2012.~~ Such an "emissions growth target" ~~could~~ would provide for continued economic development but with a lower emissions growth rate. To address economic forecasting uncertainties ~~mitigate the risk that a that could cause a target could to~~ end up being too stringent (or too lax), a target could be indexed to a country's economic performance between now and the ~~start end~~ of the 2008-2012 commitment period. Thus, faster than expected economic growth would result in an upward adjustment in the target.

~~China is one~~ One of the nations that would stand to reap substantial benefits by participating in an international emissions market ~~is China.~~ Over the past two decades, China's economy has grown at an impressive rate and it is now the world's 7th largest. At the same time, its energy consumption has more than doubled and its greenhouse gas emissions have grown substantially. While China is making impressive strides towards lowering its greenhouse gas emissions intensity (the amount of emissions per unit of gross domestic product), a variety of economic analyses and modeling efforts indicate that there are many additional low-cost emissions abatement opportunities in China. ~~indeed~~ ~~indeed~~, some analyses suggest that China has lower abatement costs than virtually any other country in the world.

Consequently, it is expected that by participating in a global emissions market China would achieve substantial gains from trade, greatly benefiting both its economy and its environment. Results from a range of economic models indicate that by taking on an emissions target some distance below emission levels that are otherwise projected for the 2008-2012 period, and by actively participating in international emissions trading, China would find it economic to reduce emissions 15 to 24% below projected 2010 emissions levels and would be able to sell emissions allowances valued at \$6 to \$14 billion annually. Gains from trade would vary greatly depending on the extent to which China's growth target varied from the business as usual projection. ~~Targets set slightly below business as usual could generate substantial gains from trade. More stringent targets would reduce, and could eliminate, the gains from trade.~~

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 10:41:59.00

SUBJECT: latest executive summary

TO: Ian Bowles (CN=Ian Bowles/OU=CEQ/O=EOP@EOP [CEQ])
READ:UNKNOWN

TO: Ronald Minsk (CN=Ronald Minsk/OU=OPD/O=EOP@EOP [OPD])
READ:UNKNOWN

TO: dmarsh@state.gov (dmarsh@state.gov [UNKNOWN])
READ:UNKNOWN

TO: mark.mazur@hq.doe.gov (mark.mazur@hq.doe.gov [UNKNOWN])
READ:UNKNOWN

TO: John D. Gibson (CN=John D. Gibson/OU=WHCCTF/O=EOP@EOP [WHCCTF])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: David B Sandalow (CN=David B Sandalow/OU=CEQ/O=EOP@EOP [CEQ])
READ:UNKNOWN

TO: ROBERT.CUMBY (ROBERT.CUMBY @ DO.treas.gov [UNKNOWN])
READ:UNKNOWN

TO: doniger.david@epa.gov (doniger.david@epa.gov [UNKNOWN])
READ:UNKNOWN

TO: miotkes (miotkes @ ix.netcom.com [UNKNOWN])
READ:UNKNOWN

TO: Roger S. Ballentine (CN=Roger S. Ballentine/OU=WHO/O=EOP@EOP [WHO])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

CC: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Here is a revised executive summary. Your thoughts as soon as possible are very much appreciated.

Joe

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D77]ARMS23846644O.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China

Executive Summary

International efforts to address the risks associated with climate change recognize the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol establishes market-based mechanisms that, if designed and implemented efficiently, would provide the foundation for a global greenhouse gas emissions market. This market would offer substantial economic opportunities for countries where emissions abatement is relatively inexpensive, including China. Under an efficient global greenhouse gas emissions market, low-cost opportunities in China to reduce greenhouse gases would attract foreign direct investment for energy and industrial abatement technologies, allowing China to generate billions of dollars in revenues annually through the sale of emissions credits or allowances to countries with higher abatement costs. Attracting investment to develop cleaner sources of energy would also mean less air pollution in many Chinese localities, resulting in substantial public health benefits.

The Kyoto Protocol's key market-based provisions include the Clean Development Mechanism (CDM) and international emissions trading. Both provisions would allow countries with low emissions abatement costs to take advantage of the opportunity to "produce" emissions abatement and to "export" certified emissions reductions or tradable allowances to other higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

Under the CDM, a country with an emissions target under the Protocol can invest in projects resulting in emissions abatement in countries without targets, thereby generating emissions credits or allowances to be used to comply with a target. The additional economic value of the emissions allowances that a project generates provides an incentive for investors, meaning that the CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise.

International emissions trading holds even greater promise both as a vehicle for transferring capital and technology and for stimulating cost-effective emissions abatement. Under the Kyoto Protocol, two countries with emissions targets can engage in trades of emissions allowances representing portions of the total amount of emissions a country has under its target. The incentive to trade will stem from the potentially large differences in marginal costs of emissions abatement across countries. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can sell tradable allowances that they will not need. Countries facing the most expensive emissions abatement measures have incentives to buy less costly allowances from others. Thus, trading will allow the international community to achieve the same overall reduction in emissions at significantly lower cost and both buyers and sellers will stand to reap significant gains. Countries buying allowances save in abatement costs and sellers would receive not only financial in-flows but also increased technology transfer.

In order to participate in trading, however, the Kyoto Protocol stipulates that a country must have an emissions target. Since the Kyoto Conference, several developing countries have expressed

an interest in emissions targets. At the same time, these countries recognize the need for such targets to be consistent with their sustainable development objectives. One way to do so would be for a country to set its target above current emissions levels, but below what emissions are forecast to be, without additional abatement policies, during the Protocol's first commitment period which runs from 2008 to 2012. Such an emissions growth target could provide for continued economic development but with a lower emissions growth rate. To mitigate the risk that a target could end up being too stringent (or too lax), a target could be indexed to a country's economic performance between now and the start of the 2008-2012 commitment period. Thus, faster than expected economic growth would result in an upward adjustment in the target.

One of the nations that would stand to reap substantial benefits by participating in an international emissions market is China. Over the past two decades, China's economy has grown at an impressive rate and it is now the world's 7th largest. At the same time, its energy consumption has more than doubled and its greenhouse gas emissions have grown substantially. A variety of economic analyses and modeling efforts indicate that there are many low-cost emissions abatement opportunities in China – indeed, some suggest that China has lower abatement costs than virtually any other country in the world.

Consequently, it is expected that by participating in a global emissions market China would greatly benefit both its economy and its environment. Results from a range of economic models indicate that by taking on an emissions target and actively participating in international emissions trading, China would find it economic to reduce emissions 15 to 24% below projected 2010 emissions levels and would be able to sell emissions allowances valued at \$6 to \$14 billion annually. Gains from trade would vary greatly depending on the extent to which China's growth target varied from the business as usual projection. Targets set slightly below business as usual could generate substantial gains from trade. More stringent targets would reduce, and could eliminate, the gains from trade.

Participating in an international emissions market would also help China improve air quality and public health. Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, since both kinds of emissions are by-products of fossil fuel combustion. Local air pollution levels in many urban areas in China are several times higher than World Health Organization recommended levels, resulting in lost workdays, hospital and emergency room visits, and chronic bronchitis. The economic cost of these public health hazards is estimated to be more than \$20 billion annually. Furthermore, damage to China's agriculture and forestry sectors from air pollution has been valued at more than \$4 billion annually. By taking advantage of its position as a low-cost producer in the global greenhouse gas emissions market, China could attract investment in the energy and industrial technologies necessary to significantly address the high levels of local air pollution affecting the Chinese people and economy.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 2-SEP-1999 15:20:43.00

SUBJECT: for your amusement

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

Douglas V. Almond (CN=Douglas V. Almond/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
----- Forwarded by Yu-Chin Chen/CEA/EOP on 09/02/99 02:47
PM -----

Yu-Chin Chen

09/02/99 12:06:04 PM

Record Type: Record

To: Charles F. Stone/CEA/EOP@EOP
cc: John L. Goldie/CEA/EOP@EOP
Subject: roundup idea

I just heard that we are gathering roundup ideas for next week? Here's a quickie for another local-RUP.

Yet Another U.S. Sector Considers Filing a 201 Safeguard Petition Against Increased Imports.

The international sector within the President's Council of Economic Advisers is considering filing a Section 201 safeguard petition in response to the recent import surges in steel, agricultural products, and other random little things like Australian automotive leather. The recent surges of these imports have caused serious injury to the CEA international sector, according to an industry representative. A survey shows that at least 25% of the sector's total employment (of 4) claim that a significant portion of its production capacity has been caught up in

dealing with these import surges. This has subsequently lead to an "overall impairment of the industry" to fully utilize its current capacity in producing sound economic advice, or in keeping up with its ERP production schedule. Moreover, the recent upturn in the U.S. trade deficit presents futher threat to the industry, and protection is needed immediately. In terms of appropriate remedies, the sector favors a 20% revenue increase, to be achieved through domestic subsidies, rather than through border measures which might have negative WTO consequences.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:10:41.00

SUBJECT: Re: IRUPs

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

John L. Goldie

09/03/99 12:00:29 PM

Record Type: Record

To: Robert Z. Lawrence/CEA/EOP@EOP

cc: Charles F. Stone/CEA/EOP@EOP, Yu-Chin Chen/CEA/EOP@EOP

Subject: Re: IRUPs

Here are some ideas for IRUPs. I may add more ideas shortly.
Remember the President is going to be in Asia at APEC so focus on that.

1)8. ITC report on Chinese accession to WTO (if we don't do this as an article).

2)6. USDA analysis of NAFTA's impact on agriculture trade. Reports on the positive influences that NAFTA has had on agriculture sector in recent years. Talks about the trade effects on different product groups. There is a little discussion on the resolution of sanitary and phytosanitary issues among member countries.

3) 6. Commerce statistics on July steel imports. Notes that imports from Japan rose 34% from June to July, which may be a noteworthy piece of information given the decision on steel tariffs to be made in the next month. The numbers also show drastic increases in the individual categories of wire rod, hot and cold-rolled steel.

3.5)6. (related) Japan has introduced a new proposal that suggests that antidumping issues be raised in next WTO negotiations. They have pressed WTO members to consider fighting pricing problems with competition policy instead of anti-dumping measures, which as I understand we are opposed to.

4) I think we did this though 7 FDI flows to Africa increased for the 4th year in a row last year, according to UNCTAD. UNCTAD has also reported on diversification of investment beyond the traditional primary commodity sectors. (This was reported in FT but I'm not completely sure we can get an official source on this.)

5)6. World Bank unveils new financial products for borrowers intended to offer developing countries more flexibility in managing their financial risks. Products include fixed-spread LIBOR-based loan and hedging products that could be used to assist borrowers in managing currency, int. rate, and commodity price risks.

6) 8. Malaysia lifted some of its economy controls this week, for example by allowing investors to repatriate their principal without taxation. Perhaps we could find info concerning response in Malaysian stock market? See today's paper.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:10:03.00

SUBJECT: CEA Users Panel

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Robert, would you like me to contact podesta, gene, lael, karen and bruce reed about doing the CEA Users panel, or would you prefer to? either way is fine with me, just let me know your preference. th anks

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:16:33.00

SUBJECT: A Website on WTO

TO: William H. Gillespie (CN=William H. Gillespie/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

<http://www.cid.harvard.edu/cidtrade/> You may find something here on
international competition policy

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 14:15:01.00

SUBJECT: Re: CEA Users Panel

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

ok. will do. thanks

Robert Z. Lawrence

09/03/99 02:14:20 PM

Record Type: Record

To: Audrey Choi/CEA/EOP@EOP

cc:

Subject: Re: CEA Users Panel

If you would do it, that would be great. Thanks.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:14:00.00

SUBJECT: Global Trade Negotiations Home Page

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
----- Forwarded by Robert Z. Lawrence/CEA/EOP on 09/03/99
12:13 PM -----

dani_rodrik@Harvard.Edu
08/25/99 10:38:55 AM
Record Type: Record

To: iti@nber.org, ifm@nber.org
cc:
Subject: Global Trade Negotiations Home Page

In my previous message, I forgot to include the URL for the Global Trade Negotiations Home Page. Here it is:

<http://www.cid.harvard.edu/cidtrade/>

Sorry.

Dani Rodrik

-- Forwarded by Dani Rodrik/FS/KSG on 08/25/99 10:42 AM --

Dani Rodrik
08/25/99 10:30 AM

To: iti@nber.org, ifm@nber.org
cc:
Subject: Global Trade Negotiations Home Page

Dear Colleague,

I want to let you know of a new web site we have set up at Harvard's Center for International Development in connection with the Seattle ministerial meeting of the WTO and the upcoming trade negotiations. Called the "Global Trade Negotiations Home Page," the site includes categorized links to research papers as well as much information on the actors and issues involved. Please check it out, and pass along any comments and suggestions for improvement. Also feel free to submit your research or policy papers to the site.

Dani Rodrik

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 09:33:14.00

SUBJECT: Haver DLX demo Sept 22

TO: Lisa S. Baccus (CN=Lisa S. Baccus/OU=WHO/O=EOP@EOP [WHO])
READ:UNKNOWN

TEXT:

Could you put this on my calender

----- Forwarded by Robert Z. Lawrence/CEA/EOP on 09/03/99
09:32 AM -----

From: Susan P. Clements on 09/02/99 07:31:00 PM
Record Type: Record

To: All CEA Users
cc: Jason Furman/CEA/EOP@EOP
Subject: Haver DLX demo Sept 22

Maurine Haver, president of Haver Analytics, will be coming to CEA
on Wednesday, September 22, at 2:00 p.m.
to demonstrate Haver DLX software.

As most of you are aware, CEA subscribes to several economic databases
from Haver.

These are accessible using software on your desktop:

- DLX View & Graph (in DLX folder in Custom Applications folder)
allows you to view data in graphic and tabular form (and export graphs);
- DLX add-ins in Excel
allow you to find and extract data into spreadsheets.

We are very fortunate to have Maurine come and personally demonstrate how
to use the DLX software.

Even those of you already familiar with Haver DLX could probably benefit
from the demonstration,
as Maurine usually enlightens us about new features that we may not yet be
using.

Please mark your calendars and try hard to attend.

(Exact room location to be determined.

I'll give you a reminder and room location after I return from vacation --
just before Maurine's visit.)

Meanwhile, I've printed copies of current documentation for DLX. Brian
will be distributing it to your in-boxes tomorrow.

It is more current than similar documentation that some of you already
have.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:59:36.00

SUBJECT: Important...

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: William H. Gillespie (CN=William H. Gillespie/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Stephen F. Lin (CN=Stephen F. Lin/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Sarah M. Anderson (CN=Sarah M. Anderson/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Sarah L. Rosen (CN=Sarah L. Rosen/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Rosalind V. Rasin (CN=Rosalind V. Rasin/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Robin L. Lumsdaine (CN=Robin L. Lumsdaine/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Noah Y. Weisberger (CN=Noah Y. Weisberger/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Michael S. Kosoff (CN=Michael S. Kosoff/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Michael J. Brien (CN=Michael J. Brien/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary E. Jones (CN=Mary E. Jones/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary A. Thomas (CN=Mary A. Thomas/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mark N. Levine (CN=Mark N. Levine/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Linda A. Reilly (CN=Linda A. Reilly/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John C. Williams (CN=John C. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Douglas V. Almond (CN=Douglas V. Almond/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Christel M. Sice (CN=Christel M. Sice/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Catherine H. Furlong (CN=Catherine H. Furlong/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Carol L. Capece (CN=Carol L. Capece/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Brian A. Amorosi (CN=Brian A. Amorosi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Andrew R. Feldman (CN=Andrew R. Feldman/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Alice H. Williams (CN=Alice H. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:

Realizing that most of our staff is new, this e-mail is to remind all that Monday (Labor Day) is a Federal holiday--meaning you are paid for the day, but you do not have to report to work.

Therefore, we will have our CEA Staff Meeting on TUESDAY at 9:30.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 10:44:47.00

SUBJECT: Your studies on Israeli Competitiveness.

TO: yagil@came.org (yagil@came.org @ inet [UNKNOWN])

READ:UNKNOWN

TEXT:

How are you? It has been a long time since I came with Shula to your lovely house. At that time you kindly gave me some preliminary work on the project you directed on Israel.

I am now on leave from Harvard and am a member of the President's Council of Economic Advisers. Next month we are having a bilateral meeting with the Israeli government in which I will be participating. I would be very interested, purely for my own background purposes if I could obtain the most recent versions of your study which I recall as being extremely informative. If what you have is too bulky, we could arrange to have it sent via the US Embassy. If not my address is Robert Z Lawrence,
Room 314, Old Executive Office Building,
Washington DC 20502. Please let me know if this is possible,
With best wishes.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 11:57:39.00

SUBJECT: CEA Education Program

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

Talked with Chad about our doing a CEA Education Program installment along the lines you suggested, Robert... I.E. how to write a memo, etc... plus an ERP Fact Checking session... We would target doing it on Friday, the 17th at 9:30 am if that is ok with both of you. thanks

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 14:19:12.00

SUBJECT: Phone Message from Roger Porter

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Contact: Roger PorterCompany: Phone: 617 496 4036FAX: Message:

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 16:13:16.00

SUBJECT: final China executive summary

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

I actually mean it this time. Attached is the final version of the executive summary to the China paper. We had a long conference call this afternoon to finalize this and the Gore-Zhu cover letter. OVP will cable the cover letter and executive summary within the hour. We are in the process of fact-checking the full document, and it should be good to go by Tuesday morning.

Joe

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D32]ARMS24418264B.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

The Economics of Greenhouse Gas Emissions Abatement in China, A Preliminary Analysis

Executive Summary

An international greenhouse gas emissions market would offer substantial economic opportunities for China. Under an efficient international market, low-cost opportunities to reduce greenhouse gases in China would attract foreign direct investment for energy and industrial abatement technologies, allowing China to generate billions of dollars in revenues annually through the sale of emissions credits or allowances to countries with higher abatement costs. Results from a range of economic models indicate that by taking on an emissions target and actively participating in international emissions trading, China would be able to sell emissions allowances valued at \$4 to \$14 billion annually.

Participating in an international greenhouse gas emissions market would also help China gain new technology transfer and investment resources to reduce the high levels of local air pollution, resulting in substantial public health benefits. Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, since both kinds of emissions are by-products of fossil fuel combustion. Local air pollution levels are a significant threat both to China's economy (especially the agriculture and forestry sectors) and to its citizens. As epidemiological research has shown, current pollution levels increase mortality rates, the incidence of chronic illness, and the number of hospital and emergency room visits. One study, for example, estimates that the mortality rate in Shenyang increases by 2 percent for every 100 micrograms per cubic meter more sulfur dioxide in the air. China's position as a low-cost producer in a global greenhouse gas emissions market offers a promising avenue for attracting investment in the energy and industrial technologies necessary to significantly address the high levels of local air pollution.

The Kyoto Protocol's market-based provisions include the Clean Development Mechanism (CDM) and international emissions trading. These provisions allow countries with low emissions abatement costs to take advantage of the opportunity to abate emissions and to sell certified emissions reductions or tradable allowances to higher-cost countries. Just as in the production of commodities or the sale of financial assets, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

Through the CDM, a country with a greenhouse gas emissions target under the Protocol can invest in projects that abate emissions in countries without targets, thereby generating emissions credits or allowances that can be transferred to the first country and used to help meet its target. The additional economic value of the emissions allowances that a project generates provides an incentive for investment, meaning that the CDM can leverage investment in clean energy and other similar projects that would not likely happen otherwise.

International emissions trading holds even greater promise as a vehicle for transferring capital and technology and for stimulating cost-effective emissions abatement. Under the Kyoto Protocol, each country with an emissions target has, in effect, an emissions "budget" – a total amount of greenhouse gases that it is allowed to emit into the atmosphere over a given period of time. A country with an emissions target can transfer a portion of its emissions budget to another such country. The incentive to trade these emission allowances stems from the large differences

in the marginal costs of emissions abatement across countries. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can sell tradable allowances that they will not need. Countries facing the most expensive emissions abatement measures have the incentive to buy less costly allowances from others. Thus, trading allows the international community to achieve the same overall reduction in emissions at significantly lower cost. At the same time, both buyers and sellers stand to reap significant gains. Countries buying allowances save in abatement costs while countries selling allowances receive additional financial in-flows and increased technology transfer.

The Kyoto Protocol stipulates that a country must have a greenhouse gas emissions target in order to participate in trading. Since the Kyoto Conference, several developing countries have expressed an interest in emissions targets. At the same time, it is broadly recognized that any such targets must be made compatible with developing countries' legitimate needs and objectives for sustainable development. One way to do so would be for a country to set its target above current emissions levels, but below what emissions are forecast to be without additional abatement policies during the Protocol's first commitment period (2008 to 2012). Such an "emissions growth target" could provide for continued economic development, but with a lower emissions growth rate. To mitigate the risk that a target could end up being too stringent (or too lax), a target could be indexed to a country's economic performance between now and the 2008-2012 commitment period.

China stands to reap substantial benefits by participating in an international emissions market. Over the past two decades, China's economy has grown at an impressive rate and it is now the world's 7th largest. At the same time, its energy consumption has more than doubled and its greenhouse gas emissions have grown substantially. While China is making impressive strides towards lowering its greenhouse gas emissions intensity (emissions per unit of output), a variety of economic analyses and modeling efforts indicate that there are still many low-cost emissions abatement opportunities in China. Some analyses suggest that China has lower abatement costs than virtually any other country in the world.

By participating in a global emissions market, China would greatly benefit both its economy and its environment. Results from a range of economic models indicate that by taking on an emissions target and actively participating in international emissions trading, China would find it economic to reduce emissions 14 percent to 24 percent below projected 2010 emissions levels and would be able to sell emissions allowances valued at \$4 to \$14 billion annually. Gains from trade would vary greatly depending on the extent to which China's growth target varied from the business as usual projection.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 09:34:29.00

SUBJECT: IRUPs

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

The ITC just released a study on the impact of China's entry into the WTO.
Its reported in the Journal today. I hin k it would make a good IRUP.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 14:14:28.00

SUBJECT: Re: CEA Users Panel

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

If you would do it, that would be great. Thanks.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 11:37:50.00

SUBJECT: Weekly Monitor for 09/03/99

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:

----- Forwarded by Steven N. Braun/CEA/EOP on 09/03/99
11:37 AM -----

jgoldstein@medleyadvisors.com
09/03/99 11:30:56 AM

Record Type: Record

To:

cc:

Subject: Weekly Monitor for 09/03/99

NOTICE: Forwarding this proprietary email report constitutes violation of
United States and international copyright laws, and will be pursued to the
full extent of the law.

Medley Global Advisors 212-219-9096

(See attached file: wmsep3.pdf)

- wmsep3.pdf

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D47]ARMS20768554K.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

MEDLEY GLOBAL ADVISORS

Weekly Monitor

September 3, 1999

PART I: MEDIUM TERM VIEW

Austin Powers II: The Oligarchs Who Shagged Me

How some US policy makers must wistfully remember the Cold War days, when the world was perhaps a more dangerous, but less complicated place. Nowhere can that sentiment be more bittersweet (or perhaps sweet and sour is a better flavor) than toward the chaotic mess that is Russia. At least when the US was dealing with the USSR, there were fewer names to remember, fewer government changes, and a lot fewer "-stans (Turkish for "non-viable"). Long gone are the evangelical days when the West felt it could "teach" Russia to use a knife and fork at the international table.

Now Washington has to contend with an increasingly embarrassing and mushrooming money laundering scandal which lays bare the Faustian pacts the US and the IMF have made with a peculiarly Russian devil. This is hardly the first time this type of scandal has happened in the world, but this time it's got a lot more zeroes than ever before. At least the Commies paid their debts and made for easy targets. Now Chernomyrdin is a nightmare for Gore and Chubais a horror show for Summers. And increasingly loud voices demand at best an explanation and at worst that a political price be paid.

The money laundering scandal that you have been reading about everywhere has called into question Western policy toward Russia on many levels. The US Administration, especially Strobe Talbott and Larry Summers, are open and vulnerable to charges of bungling the number one geopolitical obsession of the 1990s. By now, everybody knows blaming the IMF won't wash -- apart from Camdessus, the Fund has never felt any of its programs for Russia were sustainable, but at least Camdessus, the "old wise fox" knew what he was doing. Right now, the Fund is split as to whether even to disburse the next tranche of aid -- even though such "aid" is now simply a technocratic exercise in slowwwly stepping out of a \$24 billion quagmire. And the Republicans are beating the bushes (no pun intended) in Moscow to see if they can find any Lippo-class links to the Gore campaign. By the way, so far they claim to have found evidence of contributions to Gore 2000 and the Clinton defense fund. Whatever.

Inside Russia, behind the money-laundering scandal lies an increasingly desperate struggle for control of the country after the turn of the new century. Elections for the Duma are scheduled for December of this year, while presidential elections are slated for the middle of 2000. In recent weeks, we have witnessed the coalescing of several broad alliances in preparation for the Duma elections, scheduled for 19 December. As things are currently shaping up, the Duma elections will produce an assembly that is more centrist than the current Communist-dominated one. The great issue of the 1996 presidential elections -- whether the Communists under Zyuganov could gain control of Russia -- is no longer the principal threat.

This doesn't mean that stability is assured, however, because Russia today isn't about a clash of the ideological titans. Instead, it's about personal politics at the top, and indirectly about governability. Remember that Berezovsky and the other oligarchs did not decide to help Boris Yeltsin, they decided to defeat Zyuganov. At stake in the next nine months is whether a solution can be found to the problem of the transition to the post-Yeltsin era. And if that sounds too abstract, keep in mind that "the transition" and the survivability of "the family" are squarely behind

the sacking of the long list of Prime Ministers (Chernomyrdin, Kiriyenko, Primakov, Stepashin and eventually Putin), behind the speculation about declarations of a state of emergency because of Dagestan, behind the manipulation of and interference with the media (ORT, NTV, Kommersant, and Petersburg TV and Radio), and maybe even behind the bomb in a Moscow mall this week.

For the US, the intractability of the transition question poses an acute dilemma. On the one hand, the US has no desire to see Russia descend either into a second Time of Troubles (which could, like the first, follow the reign of a Tsar named Boris) -- a period of political and social instability. At the same time, the US would like to see further economic reforms take hold in Russia, as a way of bringing Russia into the orbit of the stable Western democracies. When thought of in this way, it all seems so perfectly reasonable -- there is a clear one dimensional spectrum of possible outcomes for Russia, with a liberal social compact, material prosperity, and good geopolitical relations with the West at one end, and chaos (or authoritarianism), poverty, and belligerence at the other. No one in Washington seems to admit the possibility that right now, pushing reform and maintaining stability are policies that work at cross purposes. Instead, there are private histrionic protestations of innocence, blaming the Duma for the repeated failures to advance reform, which fails to internalize, again, that the Duma is not motivated by policy imperatives.

Take, for example, Western attitudes to former PM Yevgeny Primakov. In September 1999 we seem to forget that, almost exactly a year ago, he was the only prime ministerial candidate capable of staving off a lethal constitutional crisis after the collapse of the Kiriyenko government. Primakov stabilized the political centrifuge in Russia, checked the runaway wage arrears problem, and saw the implementation of the production sharing agreements (PSAs) that were so important for the energy sector -- in short, the Primakov government stabilized the economy and the country. The world finally noticed that Russia was on the rebound only once Stepashin became PM. Official Washington now takes comfort in the fact that "the economy is better now than people think," but Stepashin and now Putin reap the dividends of what Primakov and rebounding oil prices have wrought.

But the prospect of a Primakov presidency does not sit well with US policy makers. Primakov allied himself with the Communists in the Duma. Primakov was a nightmare for the West in the Gulf War (but what Soviet Foreign Secretary worth his salt would not have been?). Primakov is allied with the candidate from hell, Yuri Luzhkov. And, of course, Primakov was/is a spy. These objections are very real, but the point is the reformers whom the US would like to see as President are simply not in a political position between now and 2000 to win an election or to govern effectively. Russia has been through two phases of "bolshevist reform": in both cases, the governments were unstable, and reforms were implementable only through concessions to vested interests that made a mockery of a level economic playing field to the average Russian.

By pursuing what it sees as one objective, but are in fact two conflicting objectives, the US has earned itself nothing but a heap of trouble for its efforts. Twisting the IMF's arm to lend massive amounts of money to Russia perverted the Fund's remit and resulted in the scandal unfolding now. Treasury officials' insistence that the policy of engagement was not naivete but realpolitik sounds good but won't stand up to detailed inspection. Although one could make the case that aiding Russia in the run-up to the 1996 presidential campaign was a necessary evil to prevent a return of Communist power, such a line of reasoning makes the last three years of engagement look like fighting the last war. (At least the IMF is currently aiding the French recovery through higher property values on the Cote d'Azur.)

Similarly, undermining Primakov behind the scenes during Kosovo simply turned Primakov into the Obi-Wan Kenobi of Russian politics -- he's back, and more present than ever before. And for his alliance to Luzhkov, the US and Boris Yeltsin have only themselves to blame. Perhaps the problem isn't that we've paid too much attention to Russian democracy -- maybe it's the opposite. Maybe we've just thrown them their allowance, like emotionally neglected kids of two-income families, in which careerist parents don't actually engage their offspring but pursue

their own policy of psychic containment through material possessions. As such parents find out, the day comes when such kids hit their teens. And then there's always hell to pay. A stronger Russia, on its own terms, perhaps would be less threatening than the humiliated giant that we now face.

PART II: CORE POSITIONS

- **THE FED** -- Neutral and watching data means you're damn right to get worried when we get a slew of numbers like we had earlier this week, and you are justified in relief when we get benign numbers like the NFP. But remember, October is still many whipsaws away and the fatwah mentality is not there. Just as NAPM did not guarantee a hike, NFP is no guarantee that they will stay on hold. "It's like one of those horror movies," a Fed official tells us. "We've got a gun, the monster keeps coming at us. We've shot twice. Don't make us shoot again." If the monster backs off, fine, but if it's Night of the Living Dead, then the FOMC will have no qualms about shooting, and that includes you Y2K sissies. Oh and by the way, the crisp mountain air causes The Great Sage to again spell out his concerns over that stock market thing. Joe Daytrader jumps out of the window before he has a chance to hear the rest of the message: we are studying it, but is it any surprise to you that a higher Dow and booming real estate affects consumer behavior?
- **PRESIDENTIAL POLITICS** -- The heat turns up on Big Al over the Russia thing (how do you spell 'Lippo' with the cyrillic alphabet?), and Republicans are not too shy about reminding us how most of the Administration was a part of "saving Russia" as well. Damn, to think there was corruption in Russia, my God, why didn't anyone tell me about this? Then again, as long as the Dow is OK, who cares? George W meanwhile finds his own version of "I didn't inhale" with "I only rubbed it on my gums, you know!" Who knows maybe it will work: 80-90% of Americans say they don't give a rat's ass. Bradley still working the crowds, slowly but surely keeping cash in reserve and waiting for his moment when Big Al stumbles. The rest of the GOPster crowd nowhere to be seen, though that weird looking rich kid is still nibbling at George W's knees with the issues -- even if they are off the wall. Hillary still providing the best show in town, rubbing elbows with the crucial upstate working class vote by buying a seven figure house in posh NYC suburbs. "Darling I love you but give me Park Avenue."
- **DOLLAR** -- Yeah, yeah, we get that global rebalancing thing. As long as it's a slow drift and there is some actual non-US growth, then it ain't the end of the world. In the meantime, those guys in Tokyo may say it is a dollar problem, but it sure looks like a yen problem to us. But if the balloon pops instead of deflating, strong dollar policymakers may start to take it personally.
- **BIG LABOR** -- The last time anybody noticed these union guys at all was when the UPS shipments from LL Bean didn't arrive on time. Now they are getting downright demanding, expecting a bigger piece of the pie, and cash-soaked management settles just to get it over with before those pesky stock analysts notice. But nervous inflation watchers catch a disturbing glimpse and fret over you know who raising you know what.

EUROPE

- **ECB** -- You know, we just might be getting just a teeny bit frustrated with you market guys. When the euro and Europe were collapsing, you whine we were too tight and didn't have a consistent message. We fixed that, ("the euro has a strong potential to appreciate... the euro has a strong potential to appreciate" -- see we can do a Rubin too!). Now, our core economies are finally turning upward again, and you suddenly decide the refi rate is the next Amazon.com. Ach du lieber, or however you say that in Dutch. As we get back from our four to six week summer holidays (oh to be European), our message is "Things are better, but take a deep breath everyone and *relax*; we'll move when we have to, but only when we're damn well ready. And stop flipping out about Y2K. We did handle the euro conversion after all and you barely noticed -- but hey, maybe a fat term repo over the turn would help?
- **VRT** -- Overall sentiment generally in favor of a switch, but cautious ECBers don't want those wacky market guys (yes, that includes you Anglo-Saxon dogs) to start ramping rates up on

them. Hence their consistent "not in the near term" comments. Minority view still hesitates to relinquish absolute control over rates, and wonders about technical aspects of whispering intentions to a whole continent of banks instead of the select few (don't worry, there will be many fewer of them soon enough). But main obstacle still the misleading rate signal a switch to VRT could send. If sentiment relaxes a bit, door opens wider for the move.

- **POLITICS** -- Sommertheater is over and the Eichel budget and the pension reforms are going to get fiddled with as SPD likely to get skewered in upcoming laender elections. But when the smoke clears, Schroeder and Eichel will hang tough and push the bills past the lefties in the Bundestag and even get around the complications in the Bundesrat after the election losses. Meanwhile, the French are looking just a teeny big smug (French smug? Impossible!), strong growth, falling unemployment, and more liberalization of the labor market than anyone would have ever thought possible. DSK soon to announce a budget for 2000 with a 0% increase in government spending, and already announced VAT tax cuts aimed at housing and construction. Italians, however, pretty much given up on social security reform. Hey, if the economy is improving and tax revenues keep coming in, why are you bothering me with this long term stuff? Besides, I'm still busy trying to find that proposal that disappeared on its way down the ministry hall. Now where did that go?

UNITED KINGDOM

- **BANK OF ENGLAND** -- It was scary looking over the brink there for a while, wasn't it? But before we can even enjoy the soft landing, we have to start worrying again about how much Tony's Islington apartment has gone up in value. BBC headlines just about grabbing us by the throats and shaking us. If house inflation comes, can RPIX be far behind? New-ish man on the block Wadwhani takes public shot at would-be hawk colleagues; hey, maybe we have a sweet spot in the UK as well. Are you listening, Mervyn? But don't you dare call it new paradigm.
- **POLITICS** -- Britain in EMU, no, sorry, that was Britain in Europe, or was it Britain looking at Europe? Tony and Gordon still want it, but it's not worth political suicide now, is it? Drops in popularity polls for the wonder boy a little disconcerting, and no one even seems to pay attention to unwitting Labour ally Hague's comments anymore. Ok, now here's the drill. Let's just hang back a bit until the Continent picks up. Yes, yes, of course we still want it, but what do you think we are, stupid?

JAPAN

- **BOJ** -- At Jackson Hole, BOJ Deputy Governor Yamaguchi made an impassioned speech describing how the BOJ was not really trying to burst the Japanese asset bubble in late 1989 but, waited till inflation had actually shown up. The unhappy result was a decade-long bear market for yen assets. The BOJ remains firmly committed to its zero interest rate policy but nothing more. Monetary base figures for August were released yesterday and these were disappointing. This means the outlook is for reduced M2+CD growth for August. So much for quantitative easing.
- **DOLLAR/YEN** -- Dollar/yen hit seven month lows this week and still did not provoke a response from the MOF. The Nikkei policy is still firmly in place, although we are clearly in uncomfortable territory as the rhetoric heats up. The flows continue to be bearish for dollar/yen and traders may grow bolder if Kuroda and company continue to "monitor carefully" despite stepped up threats.
- **JGBs** -- The liquidity panic in the JGB futures market has largely subsided as both cash bonds and March 2000 futures rallied for most of the week. After last week's poor showing at the 10-year auction, the MOF saw strong demand for 6-year paper and a successful debut of the new 30-year JGBs, thanks to demand from insurance companies seeking to hedge long-term liabilities. The longer term supply problems and growth prospects, however, still hang over rallies. The authorities are, therefore, willing to live with higher long-term interest rates if need be.
- **EQUITIES** -- In spite of the stronger yen, the Nikkei remains firmly entrenched at the mid-17,000 level. Although exporters have already started to announce downward earnings

revisions due to the strong yen, market leadership has effectively shifted to banks and other companies with a strong presence in the domestic market. Small cap shares are still roaring, with the Tokyo Second Section index hitting a five-year high this week. But as fiscal stimulus effects wear off, we have to ensure that complacency by officials does not make this another failed rally (see last week's MTV).

- **POLITICS** -- The LDP presidential election is in full swing. The outcome is not in doubt -- Prime Minister Obuchi will trounce his challengers. The focus has now shifted to the post-election cabinet reshuffle which will determine how the second supplementary budget is handled. LDP politicians are outbidding each other in an effort to have some impact on the ultimate size of the supplementary budget -- figures as high as Y20 trillion have been proposed -- but there is a growing sense that this supplementary budget might be the last one for a while. All will depend on the outcome of the April-June GDP figures, which will be announced at 8:50 am on Thursday, September 9 (Tokyo time).

EMERGING MARKETS

ARGENTINA

- **PRESIDENTIAL ELECTION** -- Peronist candidate Duhalde has managed to secure a private pledge from President Menem to not get in the way of his campaign. However, the Casa Rosada increasingly feels that Menem's stature is enhanced by letting De la Rúa and the opposition come in and quietly supporting them first year or so. Even if Menem does deliver on his pledge to get out of the way, do not expect him to really help Duhalde. The market took the devaluation talk as simply campaign rhetoric. Good. Duhalde has replaced James Carville with the Brasileiro Duda Mendoca and their private polls suggest that the free fall has stopped, but the recovery has not begun yet. Dick Morris continues to advise De la Rúa, who continues to act presidential. This week he announced some of the key members of his eventual cabinet if his lead holds, which it probably will.
- **IMF CARD** -- Government officials have gone public acknowledging that some sort of IMF led "umbrella funding" should be put together after the election. The Fund knows it cannot negotiate with any of the Ds (Duhalde, De la Rúa, Domingo) until one becomes boss. Leading opposition candidate De la Rúa and his top economic guy Machinea estimate that they will inherit a fiscal deficit in the \$8 - \$10 billion range and they know they will have to act quickly after the election. A revised IMF deal is being considered and fund officials fully expect to begin to put one together in earnest in November. Uncertainty will remain part of Argentina's finances well after the election, and if the new government fails to convince early, the crisis could intensify in January or February.

BRAZIL

- **BUDGETARY EXTRAVAGANZA** -- Next year's budget was presented by Cardoso at the Planalto this week with all the hoopla that might greet a victorious World Cup team. There was something for everyone, both the IMF and the developmentalists. The media circus is part of an effort to refocus attention on the economic successes to date, and to put the core economic team -- not congressional players -- back on top of economic policy.
- **WHO IS IN CHARGE?** -- Cardoso is trying to stage a comeback from policy oblivion. The most important part of this week's political theater was aimed at making clear who's running policy around here: Cardoso, Fraga, and Malan, not Magalhães, the PT, the truckers, the farmers, and everyone else. Associating Cardoso more closely with the budget will take some of the spotlight off of Finance Minister Pedro Malan, who has become a lightning rod for the developmentalist/austerity conflict. It is no coincidence that, in recent weeks, Central Bank head Arminio Fraga has also emerged as an economic policy spokesman for the administration. This will facilitate Malan's exit strategy.
- **STATE DEBT FIASCOS** -- Don't panic just yet: Governor Garotinho has attracted a lot of attention with his threat of a debt moratorium, but this is not Itamar Franco all over again. There will be something for the state of Rio de Janeiro in the coming weeks as well.
- **INTEREST RATES** -- Despite the decision not to cut rates, the thinking within the COPOM

is that, in fact, rates were cut for final consumers. It did this by reducing compulsory withholdings on time deposits from 20% of total deposits to 10%. This is expected to lead to an additional monetary inflow of approximately R\$ 10 billion, which should in turn lower the cost of funds for some borrowers.

CHINA

- **TAIWAN** -- The PRC doesn't want anything to spoil its 50th anniversary celebrations. This means no major moves against Taiwan, at least before October 1. Clinton-Jiang mid-September meeting in New Zealand also gives both Taiwan and the PRC some incentives not to provoke a fight right now. The overall situation remains very serious, however. Beijing has recently determined that the status quo should not be tolerated for long. If the stand-off continues after Taiwan's presidential elections next March, Beijing will likely take military actions against Taiwan.
- **US-CHINA** -- Beijing intensifies pressure on Clinton to publicly oppose Lee Teng-hui's two states theory, but it will likely be disappointed. President Clinton cannot afford to offend Taiwan's powerful friends on the Hill. If the two sides cannot strike a WTO deal -- the prospect of which remains very uncertain to this day -- then the Clinton-Jiang meeting will not achieve anything significant and it could harden China's resolve to deal with the Taiwan issue unilaterally.
- **NO DEVAL** -- The government continues to introduce stimulus measures to jump-start the economy, including a new tax on interest income from savings and the issuance of more special bonds to finance government spending. The long-term effect of these measures remains unclear, but they do mean that the government remains focused on creating internal, rather than external, demand. No deval is in the cards for the foreseeable future. A move to a more flexible exchange regime is possible in 2000 to ward off perennial pressure on the RMB, but Beijing doesn't have any specific plans yet.

HONG KONG

- **ECONOMY TURNING THE CORNER** -- All indications are that the economy is improving. GDP grew by 0.5% in Q2, much faster than the government had forecast. This has gotten HK officials to feel optimistic about the territory's future again. It will also take further pressure off the peg and vindicate the government's position that currency over-valuation is not an insurmountable obstacle to economic recovery. For the time being, the government wants to play it safe, refusing to revise its GDP forecast of 0.5% for the whole year. But officials privately admit that growth could be much higher than that.

INDONESIA

- **PRESIDENTIAL SELECTION** -- Uncertainty is the only sure thing in the run-up to autumn's MPR session. Upping the uncertainty quotient is heavy-hitting Moslem leader and putative Megawati ally, Gus Dur, who says he still supports Mega, but tells his Moslem faithful they shouldn't vote for her. A meeting between Mega and Akbar Tandung, the leader of Golkar's anti-Habibie faction, adds some intrigue to the political hot house, and could be the start of an alliance that gives Mega the numbers she needs. In all this, Megawati supporters continue to prepare to take to the streets if their woman doesn't get her electoral due. The army may not have decided yet where to lend its support, but it is readying for unrest in the fall.
- **TIMOR TREMORS** -- Death took a holiday as the Timor independence referendum went off relatively violence free, with independence apparently the big winner. The holiday is over now as pro-Jakarta militias begin to hack their way through pro-independence islanders in hopes of undoing the election outcome. As the violence flares, regional leaders are watching carefully and fretfully, wary of what Timor independence means for the future of Indonesia.

KOREA

- **WHAT LIMITS TO GROWTH** -- The government's efforts to induce real structural reform muddle onward. One day, it's the very anti-reform act of using billions of dollars of public funds to prop up a long-dead bank; the next it's the Blue House upping the ante on chaebol reform by applying some heavy pressure on chaebol bosses, accusing the whole lot of them

of some kind of illegal activity. With GDP estimates increasing weekly, muddling through may be good enough for the 70-ish President Kim, if he can hold on another couple of years, to complete his term and go out as the savior of Korea Inc.

- **PARTY ON** -- With none of three major parties rating any good publicity lately (as leaders of all of them are under investigation for some campaign irregularity or another) all three are undergoing party re-thinks with next spring's elections in mind. Coming out of these group gropes is not any deep ideological changes, but rather just new party names (we suggest Golkar). New names, sure, but the same easily bought characters will be in charge.
- **MISSILE MANIA** -- It could be the ninth consecutive year of GDP decreases or it could be a convenient delay because the missile...er, satellite, isn't ready yet, but North Korea is continuing to meet with its enablers. While nothing can be done to prevent a launch if the North decides it is in its own interest, the North might be getting close to the conclusion that it is in its own interest to be bought off. Then it will just be a matter of price, with Japan expected to ante up some extra yen, and should include a discussion in which an end to US sanctions would figure prominently.

RUSSIA

- **I SHOT THE SHERIFF** -- As the money laundering scandal inflates into a Congressional investigation, Treasury Secretary Summers says the US can't support further IMF loans until the mess is cleared up. Whazzat mean exactly, Larry? Camdessus appears to be out of touch as he praises Russia (over his deputies' objections) days before Summers gets out the shillelagh. But at least he is one of the few that was fully aware of what he was being made to do. If the White House can keep the Congressional circus under control, the next tranche can still move forward this month. But US domestic politics inject a wild card into the deck.
- **THINGS THAT MAKE YOU GO HMMM** -- A bomb goes off in a shopping mall, setting off the conspiracy theorists once again. The government suspends the broadcast licence of Petersburg TV and Radio on the grounds of being really, really mean to some delicate politicians. Interior Minister Rushailo starts making cryptic comments about Dagestan. It's just another boring August in Moscow. However, the majority view in Moscow is that elections in December are manipulated, but that they occur. On the other hand, just because you're paranoid doesn't mean they're not out to get you.
- **E PLURIBUS PLURIBUM** -- Out of the welter of petty parties and movements a few broad coalitions are emerging. The aspiring (center-left) party of power, fronted by Luzhkov and Primakov, continues to draw support from the crumbling Communist-nationalist alliance. The next Duma will be more centrist than the current, Communist-dominated one, but that doesn't mean it'll be any more accommodative with the government. The source of the friction between Kremlin and Duma is not ideologically based, and the current docility of the latter may well disappear after the Duma elections.
- **THE PYOTR PRINCIPLE** -- Central Bank reserves drop sharply, and the rub(b)le wobbles. CBR Governor Gerashenko hangs onto his job, mostly because the government fears his departure would increase pressure on the currency. Thus, the man who made sure bank reform in Russia became a joke is rewarded for his indolence. The list of possible successors to Gerashenko grows -- we'll spare you.
- **EVERYTHING THAT RISES MUST EXPLODE** -- Got a post-modern attitude toward millennium fears? This oughta shake off the rose-colored glasses: get a load of this report on Russian nuclear Y2K compliance. "So what will happen in reality? The forecasts are contradictory, ranging from the most unpleasant ones to reserved optimistic. We shall find it out soon, in the first days of January 2000." Indeed.

VENEZUELA, BOLIVARIAN REPUBLIC OF

- **ONE-BRANCH GOVERNMENT** -- Few now think that the adventures of Caudillo Chavez will end up well. Even those that were hopeful in official Washington even weeks ago now believe that El Caudillo is a time bomb waiting to explode. High oil prices will afford him some latitude. But Che Chavez is a real danger to democracy in his country and the region.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 12:00:42.00

SUBJECT: Re: IRUPs

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

CC: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Here are some ideas for IRUPs. I may add more ideas shortly.

1) ITC report on Chinese accession to WTO (if we don't do this as an article).

2) USDA analysis of NAFTA's impact on agriculture trade. Reports on the positive influences that NAFTA has had on agriculture sector in recent years. Talks about the trade effects on different product groups. There is a little discussion on the resolution of sanitary and phytosanitary issues among member countries.

3) Commerce statistics on July steel imports. Notes that imports from Japan rose 34% from June to July, which may be a noteworthy piece of information given the decision on steel tariffs to be made in the next month. The numbers also show drastic increases in the individual categories of wire rod, hot and cold-rolled steel.

3.5) (related) Japan has introduced a new proposal that suggests that antidumping issues be raised in next WTO negotiations. They have pressed WTO members to consider fighting pricing problems with competition policy instead of anti-dumping measures, which as I understand we are opposed to.

4) FDI flows to Africa increased for the 4th year in a row last year, according to UNCTAD. UNCTAD has also reported on diversification of investment beyond the traditional primary commodity sectors. (This was reported in FT but I'm not completely sure we can get an official source on this.)

5) World Bank unveils new financial products for borrowers intended to offer developing countries more flexibility in managing their financial risks. Products include fixed-spread LIBOR-based loan and hedging products that could be used to assist borrowers in managing currency, int. rate, and commodity price risks.

6) Malaysia lifted some of its economy controls this week, for example by allowing investors to repatriate their principal without taxation. Perhaps we could find info concerning response in Malaysian stock market?

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Alice H. Williams (CN=Alice H. Williams/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 3-SEP-1999 14:26:53.00

SUBJECT: IMPORTANT Message from the Chairman

TO: Yu-Chin Chen (CN=Yu-Chin Chen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: William H. Gillespie (CN=William H. Gillespie/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Susan P. Clements (CN=Susan P. Clements/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Steven N. Braun (CN=Steven N. Braun/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Stephen F. Lin (CN=Stephen F. Lin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah M. Anderson (CN=Sarah M. Anderson/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sarah L. Rosen (CN=Sarah L. Rosen/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Sandra F. Daigle (CN=Sandra F. Daigle/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Rosalind V. Rasin (CN=Rosalind V. Rasin/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robin L. Lumsdaine (CN=Robin L. Lumsdaine/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Noah Y. Weisberger (CN=Noah Y. Weisberger/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael S. Kosoff (CN=Michael S. Kosoff/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Michael J. Brien (CN=Michael J. Brien/OU=CEA/O=EOP [CEA])

READ:UNKNOWN

TO: Mary Fibich (CN=Mary Fibich/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary E. Jones (CN=Mary E. Jones/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mary A. Thomas (CN=Mary A. Thomas/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Martin N. Baily (CN=Martin N. Baily/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Mark N. Levine (CN=Mark N. Levine/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Lisa D. Branch (CN=Lisa D. Branch/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Linda A. Reilly (CN=Linda A. Reilly/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John L. Goldie (CN=John L. Goldie/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John G. Fernald (CN=John G. Fernald/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: John C. Williams (CN=John C. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Francine P. Obermiller (CN=Francine P. Obermiller/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Douglas V. Almond (CN=Douglas V. Almond/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Christel M. Sice (CN=Christel M. Sice/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Charles F. Stone (CN=Charles F. Stone/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Catherine H. Furlong (CN=Catherine H. Furlong/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Carol L. Capece (CN=Carol L. Capece/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Brian A. Amorosi (CN=Brian A. Amorosi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Audrey Choi (CN=Audrey Choi/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Andrew R. Feldman (CN=Andrew R. Feldman/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TO: Alice H. Williams (CN=Alice H. Williams/OU=CEA/O=EOP [CEA])
READ:UNKNOWN

TEXT:

If you do not have urgent business you are engaged in this afternoon, and you would like to leave early for the three-day weekend, please feel free to do so.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 6-SEP-1999 17:21:11.00

SUBJECT: climate change talking points for Clinton-Jiang

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
Robert,

During a conference call Friday afternoon to discuss the China paper, we briefly went over the talking points on climate change for the Clinton-Jiang meeting. They seemed fine to me. However, I have been reading some in the papers that we might expect a positive outcome on WTO accession at the bi-lat. If so, it might be beneficial for Clinton to note that our climate change economic analysis illustrates gains from trade in greenhouse gas emissions, and as our countries work together to secure a better trade relationship in general, it would be useful for us to explore the potential in new markets, such as GHGs. What is your take on the status of WTO, and whether or not suggesting this comment would be useful? Let me know, and if you would like to go forward with this, I can first make a suggestion to David Sandalow. (David, with his NSC hat, would likely be involved in clearing on the talking points.)

Joe

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 6-SEP-1999 14:33:30.00

SUBJECT: Compliance

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: miotkes (miotkes @ ix.netcom.com [UNKNOWN])
READ:UNKNOWN

TO: Victoria A. Greenfield (CN=Victoria A. Greenfield/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TO: morgenst@hotmail.com (morgenst@hotmail.com [UNKNOWN])
READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])
READ:UNKNOWN

TEXT:
Please disregard the attachment to the previous email I sent.

Attached is a draft of a one-pager describing the variation of the financial penalty compliance mechanism we have been discussing. This is strictly a description of the proposal, without any pros and cons. Your thoughts on substance and presentation, especially in terms of framing this for an interagency discussion, are welcome.

Joe

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:
Unable to convert ARMS_EXT:[ATTACH.D94]ARMS20072894A.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

A Variant on a Financial Penalty Compliance Mechanism

Previous papers (e.g., the 4/14/99 Biniarz Compliance Paper) have outlined an array of compliance mechanisms. This paper provides some details on a variation of the financial penalty option discussed in previous interagency discussions.

The compliance mechanism could be designed so that parties whose emissions exceeded their assigned amount would have to pay a financial penalty. This financial penalty could be designed so that a party would have to pay \$X per ton for every ton of emissions it is in excess of its assigned amount at the end of the commitment period. For example, if a party exceeded its target by 10 MMTCE, and the penalty price was set at \$25 per ton of carbon equivalent, then the penalty would be \$250 million. This mechanism would have several important attributes.

- *The penalty price.* The setting of the penalty price would provide much greater certainty regarding the cost of complying with the Kyoto Protocol by effectively setting a ceiling on the cost (marginal) of emissions targets.
- *Allocation of penalty funds.* A party would have to dedicate its penalty funds for activities that address the risks of climate change, but maintains discretion on exactly how and where to use these funds. For example, a party could use these funds 1) to buy and retire tradable allowances from the second commitment period; 2) to invest in climate-friendly projects such as afforestation projects, additional CDM or CDM-like projects, or projects that assist in mitigating the effects of climate change; or 3) to fund energy R&D. Penalty funds would go to a multi-lateral institution only if a non-compliant party decided to take such an action.
- *Integrating with domestic trading program.* Since domestic trading programs would essentially devolve emissions abatement decisions to the private sector, it would be useful to convey the penalty price component of the compliance mechanism to those in the private sector participating in the trading program. For example, in a U.S. trading system, firms required to hold emissions permits to cover their emissions would seek out the lowest cost opportunities to comply with the domestic system. In addition to abating their own emissions, trading with other U.S. firms, investing in CDM projects, or purchasing international tradable allowances, a firm could also go to the Federal government and buy an emissions certificate at the penalty price. The revenues from the sell of emissions certificates could be sequestered in a U.S. climate-activities fund (e.g., the penalty funds discussed above).¹ For purposes of private sector compliance with the domestic trading program, a U.S. firm would have to hold domestic emissions permits, CDM CERs, international tradable allowances, and these emissions certificates to cover their emissions during the commitment period. This system where the private sector pays for additional emissions certificates would finance the U.S. penalty fund, thereby eliminating the need for appropriating additional funds to cover non-compliance.

¹ This is analogous to the Renewable Portfolio Standard proposal in the Administration's electricity restructuring bill, which has a price ceiling on the trading program, and revenues from selling government RPS certificates are dedicated to the Public Benefits Fund.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 6-SEP-1999 15:17:12.00

SUBJECT: no-lose targets

TO: miotkes (miotkes @ ix.netcom.com [UNKNOWN])

READ:UNKNOWN

TO: Robert Z. Lawrence (CN=Robert Z. Lawrence/OU=CEA/O=EOP@EOP [CEA])

READ:UNKNOWN

TEXT:

Attached is a short draft of a description of no-lose targets. Should we add pros and cons? Is the description sufficiently clear? Comments and suggestions are welcome.

Joe

===== ATTACHMENT 1 =====

ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D16]ARMS29813894C.236 to ASCII,
The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

“No-Lose” Targets for Developing Countries

“No-lose” targets for developing countries could serve as a mechanism that could address developing countries’ concerns about targets constraining economic development while allowing them to take on quantitative targets that could provide the basis for trading. A no-lose target would effectively provide a quantitative goal for developing countries, but with a differentiated compliance regime: if a developing country has emissions in excess of the no-lose target, there would be no penalty for non-compliance.

- X *Target Level.* A no-lose target could cover the first commitment period. This kind of target could be a fixed growth target (e.g., percentage of a base year) or an indexed growth target. The targets would be set above current emission levels but below projected BAU emissions. We recommend that the no-lose target be more stringent than a target with downside risk (e.g., a binding growth target with a compliance regime comparable to Annex B targets’ compliance regime).
- X *Trading No-Lose Target Credits.* An evaluation of performance at the end of the commitment period could serve as the basis for trading. With no-lose targets, credits would be generated only during an ex post evaluation and there would be no downside risk if efforts to abate emissions were not successful; thus, a developing country would never be a buyer of emissions allowances. The developing country may sell the emissions representing the difference between its actual emissions and its non-binding cap. These no-lose target credits could be sold during the “true-up” period at the end of the first commitment period to those Annex I countries needing additional emissions allowances to meet their targets. Alternatively, these credits could be banked for use in the second or subsequent commitment periods.

RECORD TYPE: PRESIDENTIAL (NOTES MAIL)

CREATOR: Joseph E. Aldy (CN=Joseph E. Aldy/OU=CEA/O=EOP [CEA])

CREATION DATE/TIME: 6-SEP-1999 14:29:49.00

SUBJECT: compliance

TO: Leigh L. Linden (CN=Leigh L. Linden/OU=CEA/O=EOP@EOP [CEA])
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Attached is a draft of a one-pager describing the variation of the financial penalty compliance mechanism we have been discussing. This is strictly a description of the proposal, without any pros and cons. Your thoughts on substance and presentation, especially in terms of framing this for an interagency discussion, are welcome.

Joe

===== ATTACHMENT 1 =====
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TEXT:

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A Variant on a Financial Penalty Compliance Mechanism

Previous papers (e.g., the 4/14/99 Biniaz Compliance Paper) have outlined an array of compliance mechanisms. This paper provides some details on a variation of the financial penalty option discussed in previous interagency discussions.

The compliance mechanism could be designed so that parties whose emissions exceeded their assigned amount would have to pay a financial penalty. This financial penalty could be designed so that a party would have to pay \$X per ton for every ton of emissions it is in excess of its assigned amount at the end of the commitment period. For example, if a party exceeded its target by 10 MMTCE, and the penalty price was set at \$25 per ton of carbon equivalent, then the penalty would be \$250 million. This mechanism would have several important attributes.

- *The penalty price.* The setting of the penalty price would provide much greater certainty regarding the cost of complying with the Kyoto Protocol by effectively setting a ceiling on the cost (marginal) of emissions targets.
- *Allocation of penalty funds.* A party would have to dedicate its penalty funds for activities that address the risks of climate change, but maintains discretion on exactly how and where to use these funds. For example, a party could use these funds 1) to buy and retire tradable allowances from the second commitment period; 2) to invest in climate-friendly projects such as afforestation projects, additional CDM or CDM-like projects, or projects that assist in mitigating the effects of climate change; or 3) to fund energy R&D. Penalty funds would go to a multi-lateral institution only if a non-compliant party decided to take such an action.
- *Integrating with domestic trading program.* Since domestic trading programs would essentially devolve emissions abatement decisions to the private sector, it would be useful to convey the penalty price component of the compliance mechanism to those in the private sector participating in the trading program. For example, in a U.S. trading system, firms required to hold emissions permits to cover their emissions would seek out the lowest cost opportunities to comply with the domestic system. In addition to abating their own emissions, trading with other U.S. firms, investing in CDM projects, or purchasing international tradable allowances, a firm could also go to the Federal government and buy an emissions certificate at the penalty price. The revenues from the sell of emissions certificates could be sequestered in a U.S. climate-activities fund (e.g., the penalty funds discussed above).¹ For purposes of private sector compliance with the domestic trading program, a U.S. firm would have to hold domestic emissions permits, CDM CERs, international tradable allowances, and these emissions certificates to cover their emissions during the commitment period. This system where the private sector pays for additional emissions certificates would finance the U.S. penalty fund, thereby eliminating the need for appropriating additional funds to cover non-compliance.

¹ This is analogous to the Renewable Portfolio Standard proposal in the Administration's electricity restructuring bill, which has a price ceiling on the trading program, and revenues from selling government RPS certificates are dedicated to the Public Benefits Fund.