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# SNA Measurement of Real Income

## An Application to Mexico

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# Background

- Stiglitz-Sen argues for more focus on a broad measure of economic statistics, not just of on GDP
- The SNA contains a number of recommendations for calculating economic statistics that move the focus of analysis beyond production and begin looking at well-being concepts

# From Production to Well-Being

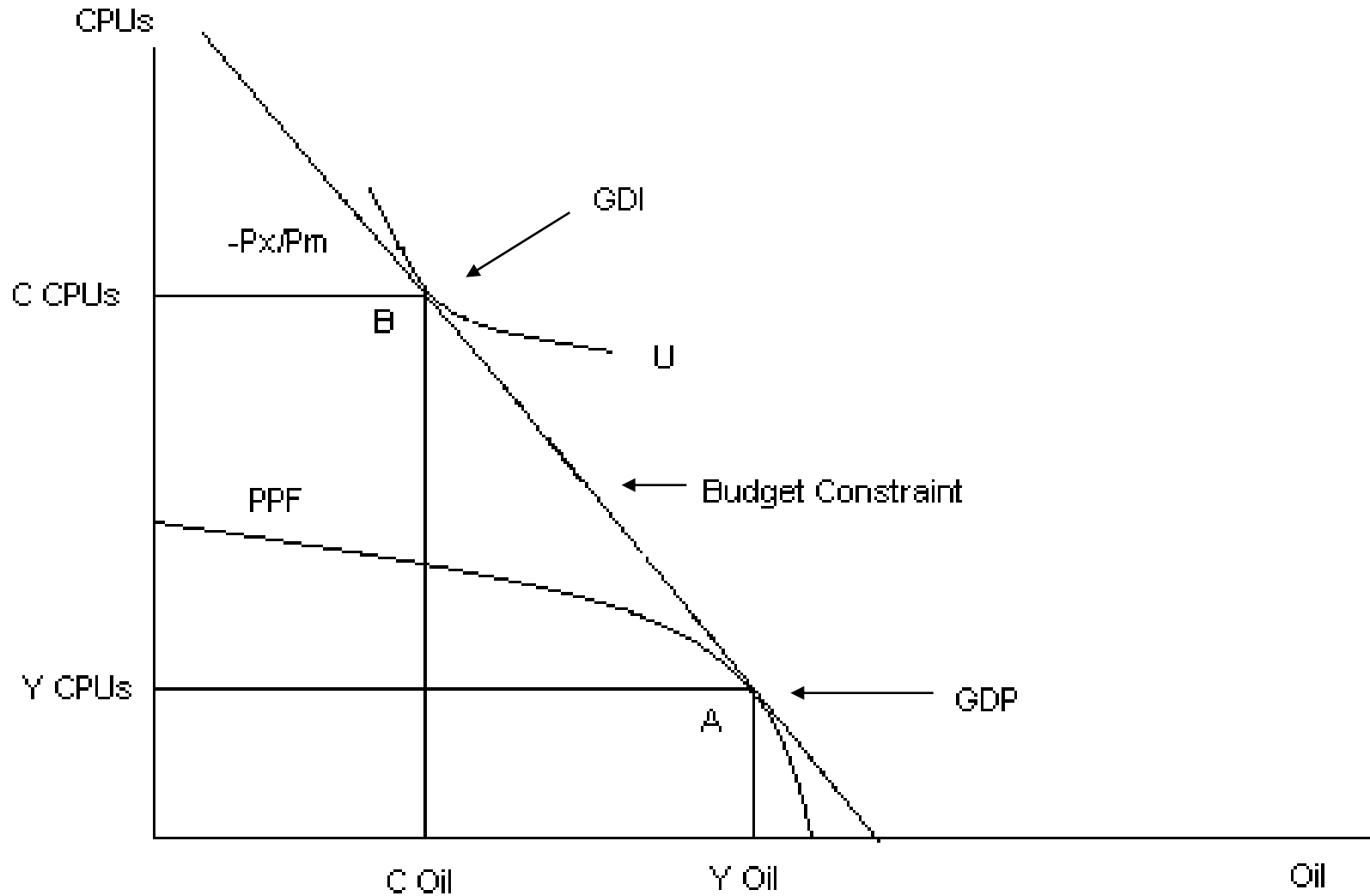


- Moving from Production to Well-Being based measures involves three procedures:
  1. Adjustments for relative prices (necessitates a different deflator than that used for GDP)
  2. Adjustments for the current account
  3. Adjustments for depreciation
  
- All three are discussed in the SNA

# Relative price adjustment

- GDP is a measure of income that can be deflated in two ways
  - Using production-based prices to get a real income measure in terms of the netputs produced (Real GDP)
  - Using a domestic expenditure-based deflator to get a real income measure based on purchasing power (Real Gross Domestic Income or GDI)

# Real GDP vs Real GDI

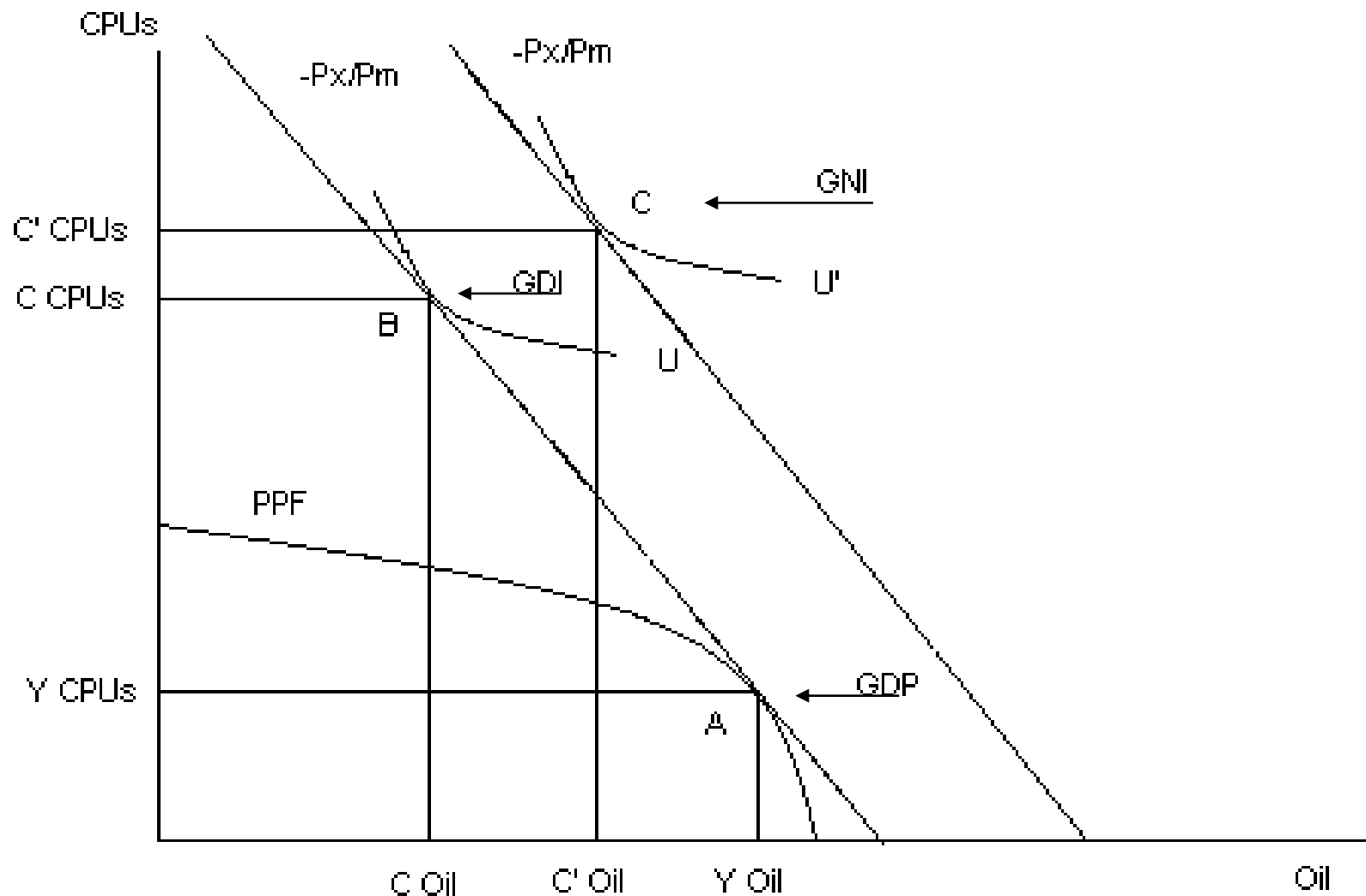


# Current Account Adjustments



- Nominal income (GDP) can also be adjusted for current account entries
- GDP contains an adjustment for the trade balance
- Additional adjustments can be made for:
  1. Net primary income flows (NIFA)
    - Leads to real Gross National Income (GNI)
  2. Net current transfers (NCT)
    - Leads to real Gross National Disposable Income (GNDI)

# Adjusting for Current Account Entries



# A Final Adjustment for CCA



- An adjustment for depreciation can also be incorporated
- Stiglitz-Sen argues this is appropriate for placing real income statistics onto a “sustainable” framework
- Important to note that if a society ages the consumption of fixed capital through a drawdown of savings may be an optimal response
- Adding an adjustment for depreciation leads to real Net National Disposable Income (NNDI)



# Result of moving away from Real GDP



1. Different understanding of how fast an economy is advancing
2. Better recognition of the effect of international transactions on domestic expenditures
3. Different conclusions about relative economic performance

# Mexico: Growth across real income measures

	1971-1980	1981-1986	1987-1990	1990-1992	1993-2000	2001-2007
Real GDP Per Capita	3.4%	-1.2%	0.4%	3.2%	1.9%	1.5%
Real GDI Per Capita	3.8%	-2.4%	0.7%	3.8%	2.0%	1.7%
Real GNI per capita	3.7%	-2.8%	1.3%	4.2%	2.1%	1.9%
Real GNDI per capita	3.7%	-2.7%	1.3%	4.1%	2.1%	2.1%
Real NNDI per capita	3.6%	-3.4%	2.5%	4.6%	2.1%	2.1%
Labour Productivity	--	--	--	--	0.2%	0.8%

# US: Growth across real income measures

	1971-1980	1981-1986	1987-1990	1990-1992	1993-2000	2001-2007
Real GDP Per Capita	2.2%	2.4%	2.7%	0.4%	2.7%	1.5%
Real GDI Per Capita	1.9%	2.6%	2.5%	0.4%	2.7%	1.4%
Real GNI per capita	1.9%	2.5%	2.6%	0.4%	2.7%	1.5%
Real GNDI per capita	1.9%	2.4%	2.6%	0.3%	2.7%	1.4%
Real NNDI per capita	1.7%	2.5%	2.7%	0.4%	2.7%	1.3%
Labour Productivity	1.6%	1.8%	0.8%	2.0%	1.5%	2.0%

# Mexico: Contributions to Real Net National Disposable Income Growth



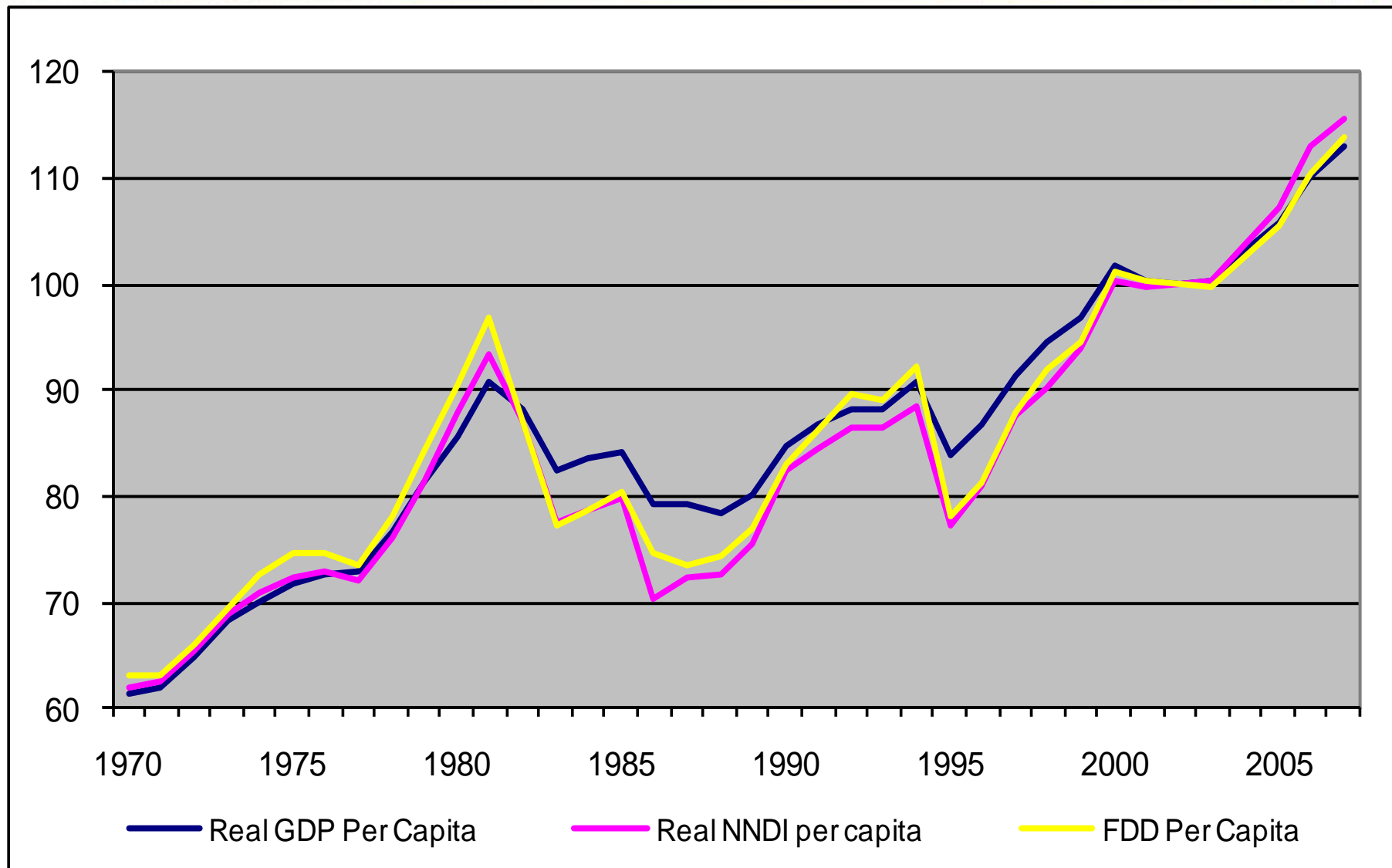
	1971-1980	1981-1986	1987-1990	1990-1992	1993-2000	2001-2007
Real GDP	3.4%	-1.2%	0.4%	3.2%	1.9%	1.5%
Trading Gain	0.4%	-1.3%	0.3%	0.6%	0.1%	0.2%
NIFA	-0.2%	-0.4%	0.6%	0.4%	0.1%	0.1%
NCT	0.0%	0.2%	0.0%	-0.1%	0.0%	0.2%
Depreciation	0.0%	-0.8%	1.2%	0.4%	0.0%	0.0%

# Mexico: Real GDP, Real NNDI Vs Consumption and Investment

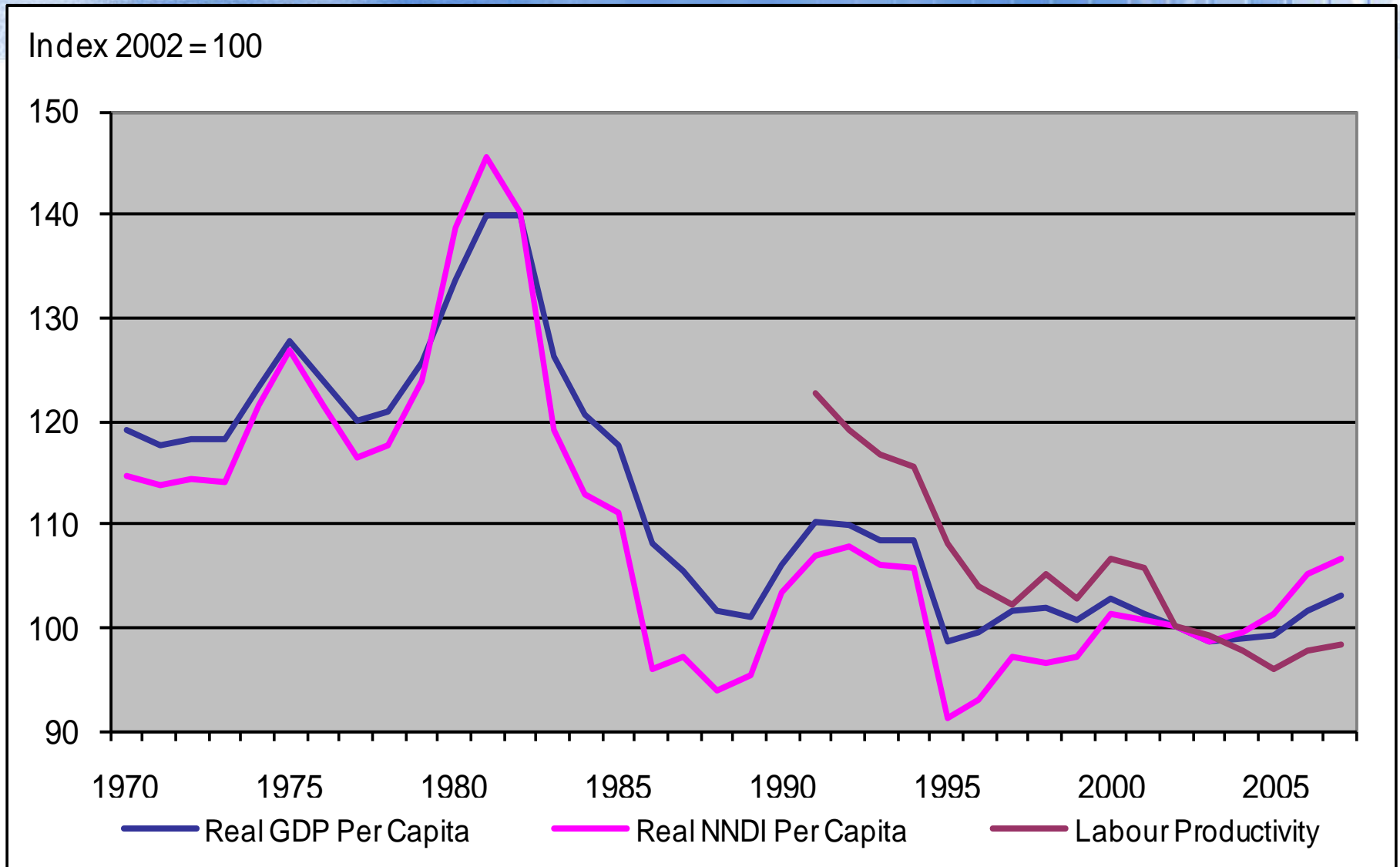


	Real GDP	Real NNDI	Household Consumption	Government Consumption	Gross Fixed Capital Formation
1994-2007	1.8%	2.2%	2.1%	-0.2%	3.9%

# Mexico: Real GDP, Real NNDI and Real FDD



# Mexico Vs USA



# In Conclusion

- Stiglitz-Sen brings issues with what the SNA is measuring and how it is used to the forefront
  - Provides an impetus for discussion
- The SNA contains a series of recommendations for producing measures similar to those proposed by Stiglitz-Sen
- These measures are not currently widely discussed or understood by users of National Accounts data
  - But, this is improving



# In Conclusion

- The challenge faced by statistical agencies is to be able to communicate what is being measured and how it can be useful to our users