## Lecture 6: The Economic Effects of Conlfict

- Have seen that the causes of conflict are as varied as the nature of conflict and the roots of war are multifaceted, with important historical contexts.
- There are a number of features that can be identified as contributing to conflict and war
    - Colonial legacy:
    - Military governments and militaristic cultures:
    - Ethnicity and religion:
    - Unequal development:
    - Inequality and poverty:
    - Bad leadership and/or polity frailties and inadequacies
    - External influences:
    - Greed/opportunity/feasibility
    - Natural resources

- Very few conflicts are simple -often a combination of factors
- Can have important implications for post conflict reconstruction –or even achieving peace
- So likely to be important to carefully research individual countries when attempting to design polices for post conflict reconstruction.

But question concerned with today is the cost of conflict –again mainly focus on civil war

Again there are differences in opinion on the effects of war:

- Modernisation: conflict and war can be positive or at least have positive effects
    - Orthodox perspective that countries just bounce back quickly from conflict to long term trend –Organski & Kugler
    - Destruction of old capital can have benefits
    - May be human capital benefits
    - May be important process of economic development –primitive accumulation (Cramer)

- Destructive: conflict and war have real costs and impact upon economies negatively. They also have legacy costs that can last for a long time

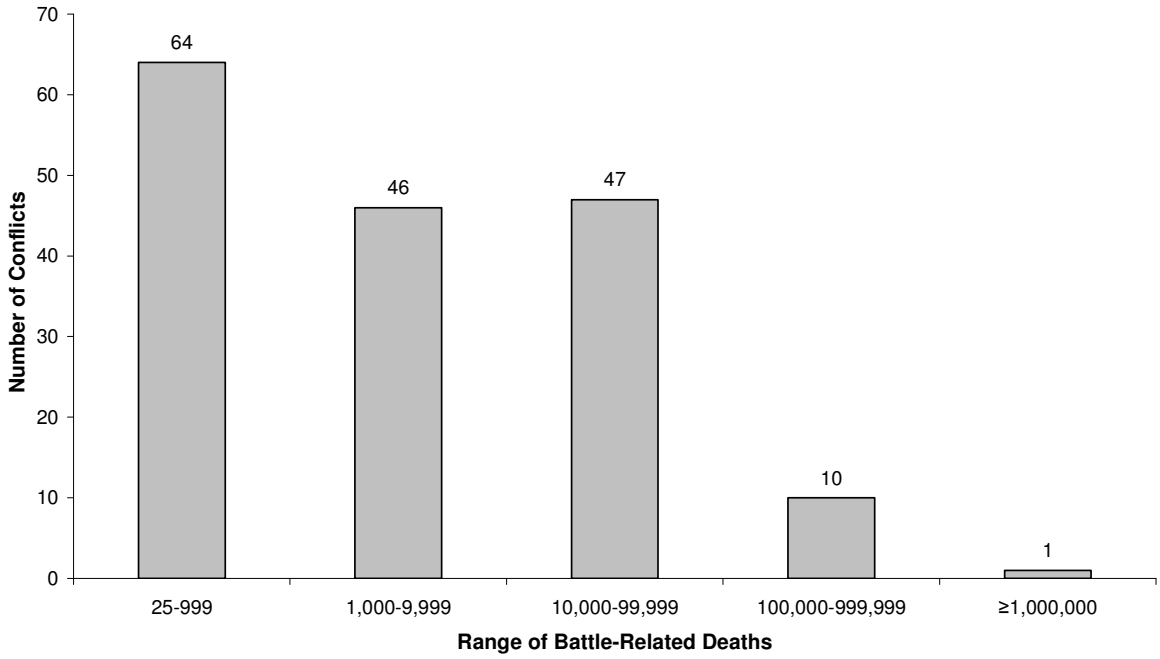
Will focus mainly on second…

- We can distinguish a range of costs
    - Short and medium term –ones generally are considered
        - Lives lost
        - Permanent injuries
        - Refugees
        - Military expenditure
        - Asset losses [destroyed capital inc human]
        - GDP/production losses [income losses]
        - Trade losses [specialization losses]
    - Long term -intergenerational effects
    - Transboundary effects
    - Environmental effects

- Another way is to distinguish
    - Destruction and deferred accumulation
    - Legacy

Immediately apparent costs are loss of life

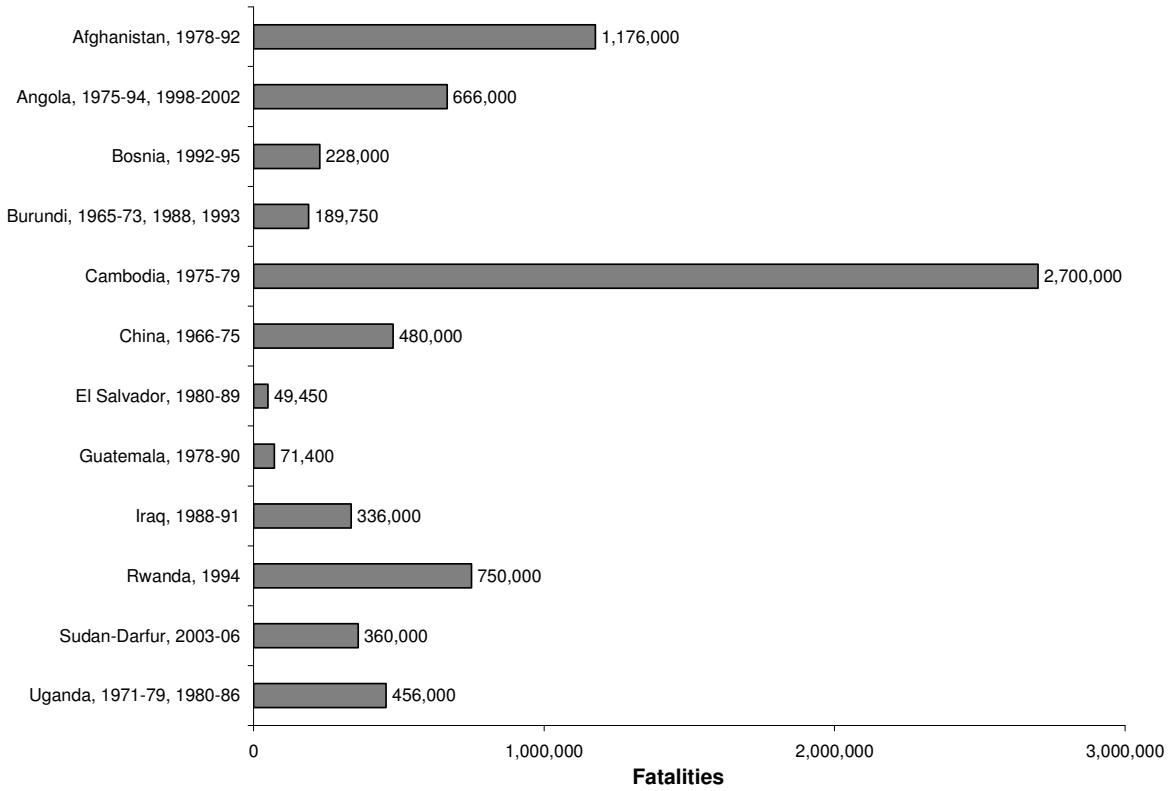
Range of battle-related deaths from armed civil conflicts, 1946-2005



Most wars relatively small –NB definition in data sets of >1000 battle deaths

But this is not the whole story by any means

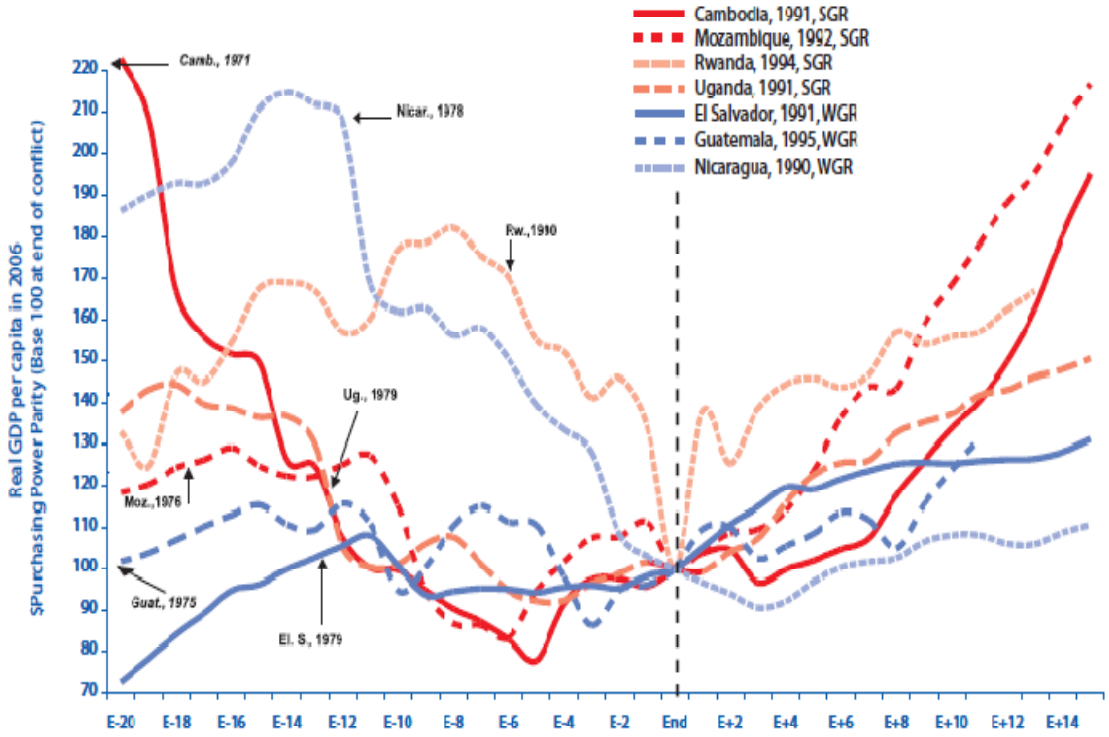
Estimated fatalities for selected genocides and politicides, 1965-2006




So these costs can be very large and somewhat upsetting

And as we have seen before the economic costs appear large: UNDP conflict graph

Figure 4.2 GDP per capita in selected SGR and WGR countries (year conflict ended, group)




Note: Arrows point to starting year of conflict, unless where conflict is ongoing over the entire period covered (Cambodia, Guatemala), in which case the arrow points to the first year of the series.

Countries do recover. But not for a good number of years

**Consider how economies are likely to react to conflict**

- Economic Growth framework
    - If conflict affects performance of economy it should be through factors of production or technology , institutions, culture that augment them
    - Different frameworks can give different conclusions
        - Basic N-C model: a one time shock to capital stock wont effect equilibrium
        - Poverty trap, endogenous growth and vintage models will give persistent effects
        - Asymmetric destruction could influence recovery –in Barro type model disprop loss of human capital could lead to slower recovery
    - Identification problem: countries in conflict different to peaceful countries ; bad performance after conflict could reflect what country was like before conflict –the conditionss that led to it

- Endogeneity problem –similar for impacts on govt performance or institutions of individuals –if targeted for violence or recruitment

- Physical Capital –evidence that like N-C prediction postwar evolution of capital rapid recovery to equil
    - Studies of effect bombing
    - Study suggesting financial crises more longlasting!
    - But economic devastation may prevent durable peace
    - Other factors models don't have
        - Destruction household assets –peasent households
        - Flight of capital
        - Effect of uncertainty on cost of capital
        - Foreign can play important role in economic recovery

- Human capital –lots of people are killed
        - Mixed evidence on how long economic effects last
        - Some evidence recover quickly
        - Clearly negative human capital effects on non combatants and combatants
        - But some evidence not

- Institutions –important in growth but little work on their evolution in civil war
    - War does not need to be destructive to institutions –better state/ruler?
    - May vary by how war started –why? – and how it ends –victory for one side?-

- Other non N-C frameworks: would vary
    - Post Keynesian
    - Disequilibrium effects
    - Technology paths
    - Modernisation – primitive accumulation

To measure the actual impact –the cost of conflict- we can use two approaches

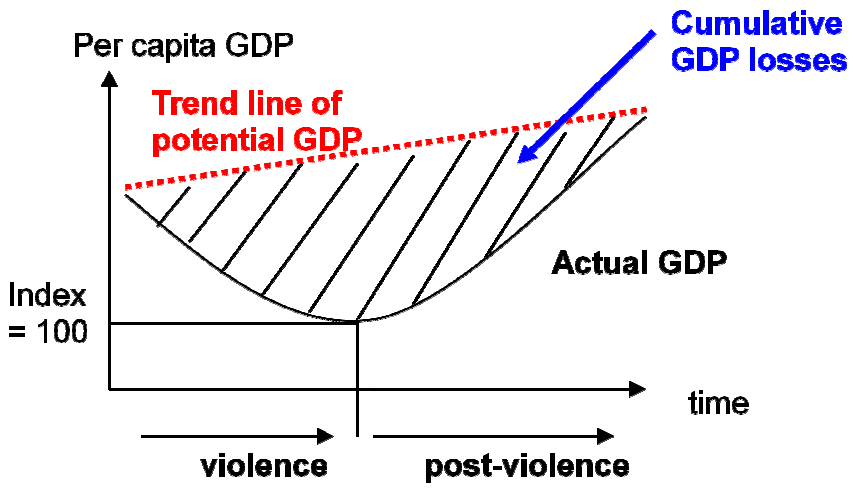
1. Accounting approach –try to work out the total value of goods destroyed :

| ***economic level*** | ***direct costs*** | ***indirect costs*** |
|---|---|---|
| ***external relations*** | ***foreign debt*** | ***capital flight of domestic capital***<br>***capital flight of foreign capital***<br>***discouragement of new foreign investments***<br>***skilled workforce***<br>***reduction of incoming tourists***<br>***less exports***<br>***less imports***<br>***less development aid***<br>***less humanitarian aid***<br>***military aid +/-*** |
| ***economic level*** | ***direct costs*** | ***indirect costs*** |
| ***national economy level*** | ***physical destruction of production capacity, infrastructure, factories, machinery***<br>***physical destruction of transport vehicles and routes***<br>***agricultural production capacity***<br>***physical*** | ***non-production because of threat situation***<br>***taxation by rebel and government troops***<br>***less investment***<br>***less developed human resources as less hea***<br>***less education expenditure***<br>***missed education opportunities for combata***<br>***less production of transport and physically li***<br>***production***<br>***more production for short term profits, less*** |

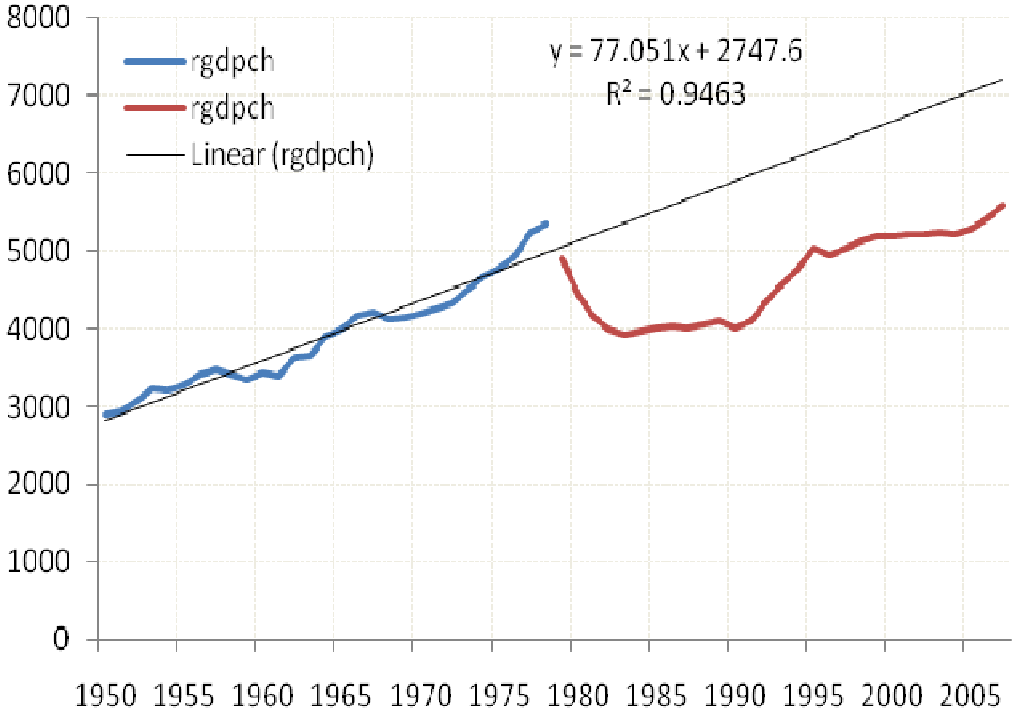
| | | |
|---|---|---|
| | ***destruction of land***<br>***death and injuries on workforce***<br>***higher military expenditure***<br>***refugee care***<br>***land mines*** | |
| ***household level*** | ***death, injuries and illness***<br>***extra legal income +*** | ***food scarcity***<br>***inflation***<br>***emigration, forced migration*** |

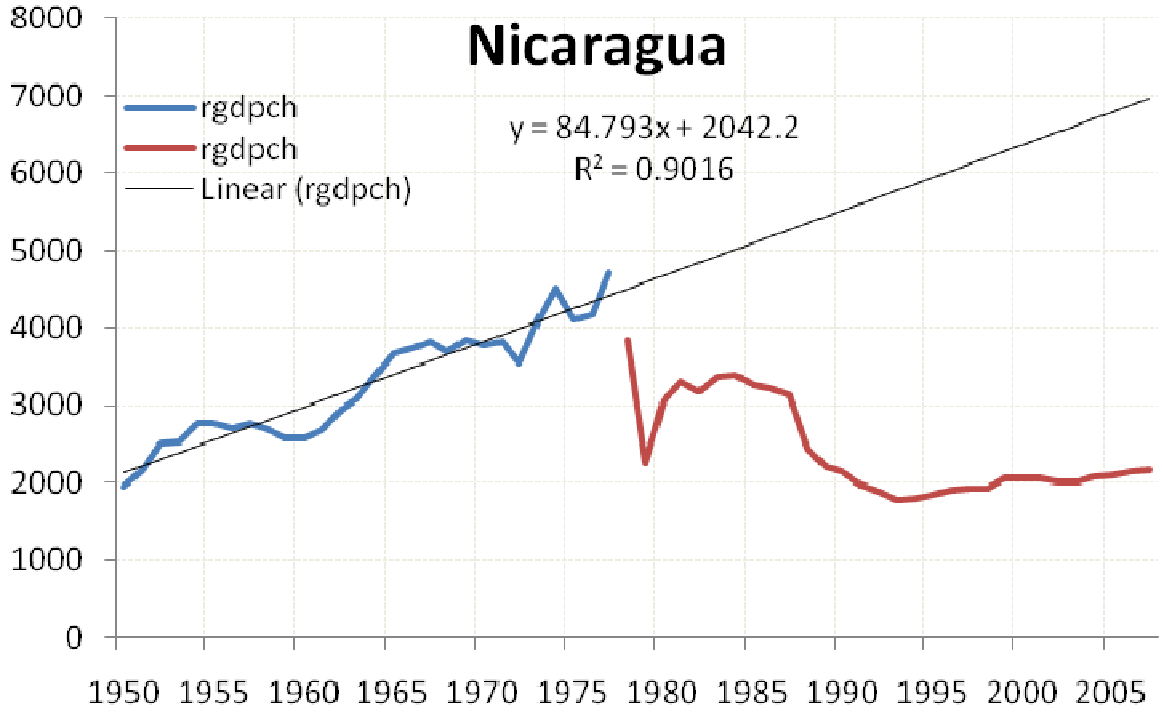
Source Lindgren –de Groote et al have similar

2. Counterfactual analysis –compare with counterfactual –other country, artificial country, fundamentals

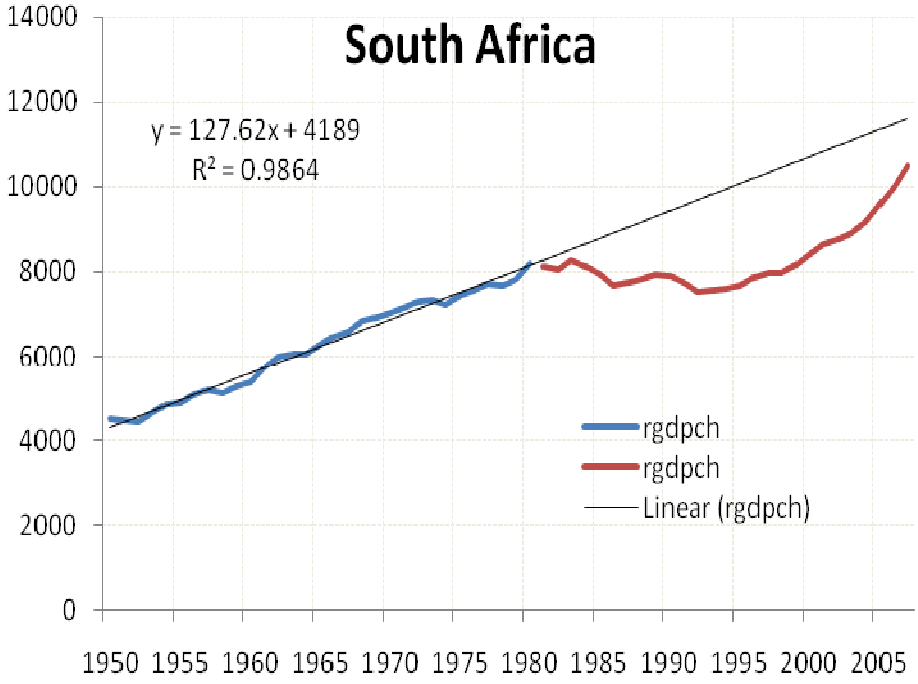



El Salvador




- Interestingly……




**Measures of Direct Conflict Costs**

- Can consider deviation from trends or use counterfactual based on model.

- Case study examples
  - Fitzgerald (1987) Nicaragua –regression counterfactual

  - On the basis of case study analysis of 15 countries Harris (1999) argues that war is associated with:
    - slow growth,
    - declining food production and declining exports.
    - While war is generally not the only or essential cause of such economic problems, but once it has started it does impact negatively on human development.

  - Nordhaus (2002) US Iraq war –scenarios

  - Interesting recent study: Abadie and Gerdeazabal (2003) effect on Basque region –use counterfactual based on construction of artificial region combination of other unaffected ones –to replicate characteristics as closely as poss; difference around 10%

**Cross country using growth model counterfactual**

- Collier (1999) estimated the costs of civil war in terms of the reduction in the rate of economic growth adapting standard approach of empirical growth econometrics, taking as the dependent variable the growth rate during a decade, and introducing the number of months during which the country is at civil war as an explanatory variable. Each year of civil war reduces the growth rate by around 2.2%.

- Other estimates have been made from aggregations of case studies, and these tend to propose rather higher growth costs of war, but case studies were not selected randomly and there may have been a tendency to select particularly costly wars.

- Average civil war lasts for around seven years (Collier and Hoeffler data set). Thus, by the end of a civil war the economy is approximately 15% below its counterfactual level.

- One interpretation of Collier's finding then is that countries in violent conflict are essentially stagnant; that all their "natural" growth is negated by violence, or that their "above normal," "catch-up" growth is dampened

- Various other measures higher and lower

- –de Groote et al (2009) compare the results of different types of studies for one country (Sri Lanka)

Results of previous studies regarding costs of Sri Lanka conflict: Costs in billion US$ (constant 2000 prices)

1. Richardson and Samarasinghe (1991)
2. Grobar and Gnanaselvam (1993)
3. Harris (1999)
4. Kelegama (1999)
5. Arunatilake et al. (2001)

| Study | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| War years | 1983-88 | 1983-88 | 1983-92 | 1983-87+ 1990-94 | 1994-199 |
| Total costs | 6.15b US$ | 1.99b US$ | 6.31b US$ | 16.74b US$ | 22.34b US$ |
| Average p.a. | 1.02b US$ | 0.33b US$ | 0.63b US$ | 1.72b US$ | 1.93b US$ |
| % GDP p.a. | 2.2% | 0.7% | 1.3% | 3.3% | 3.5% |

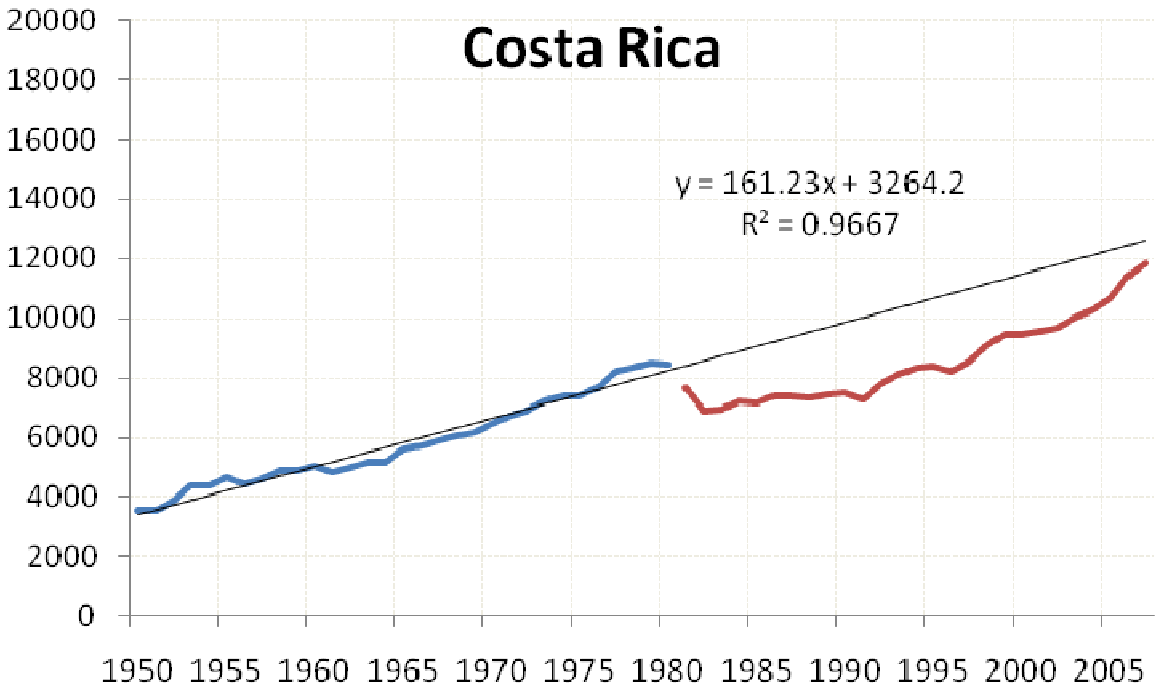
**Indirect costs**

- Some studies aim to analyse how conflict affects a particular attribute of economic wellbeing. Have to be careful about double counting if aggregate these and link to other approaches

    - Military expenditure –opp cost; economic effect
    - International spillovers – see below
    - Intertemporal effects –generational; growth; welfare
    - Human capital effects
        - Health –causualties civil and military and aftermath
        - Education –evidence of decline in conflict
    - Effects on inequality
    - Environmental consequences –see Brauer piece

**International Spillovers:**

- Conflict in a particular country or region can have a wider impact -Obvious for large wars
- But surprising example is Costa Rica –a peaceful country that has suffered from conflict



- Murdoch/Sandler look at effect of civil war on per capita income growth in home country and neighboring countries
    - Model based on Solow's augmented growth model

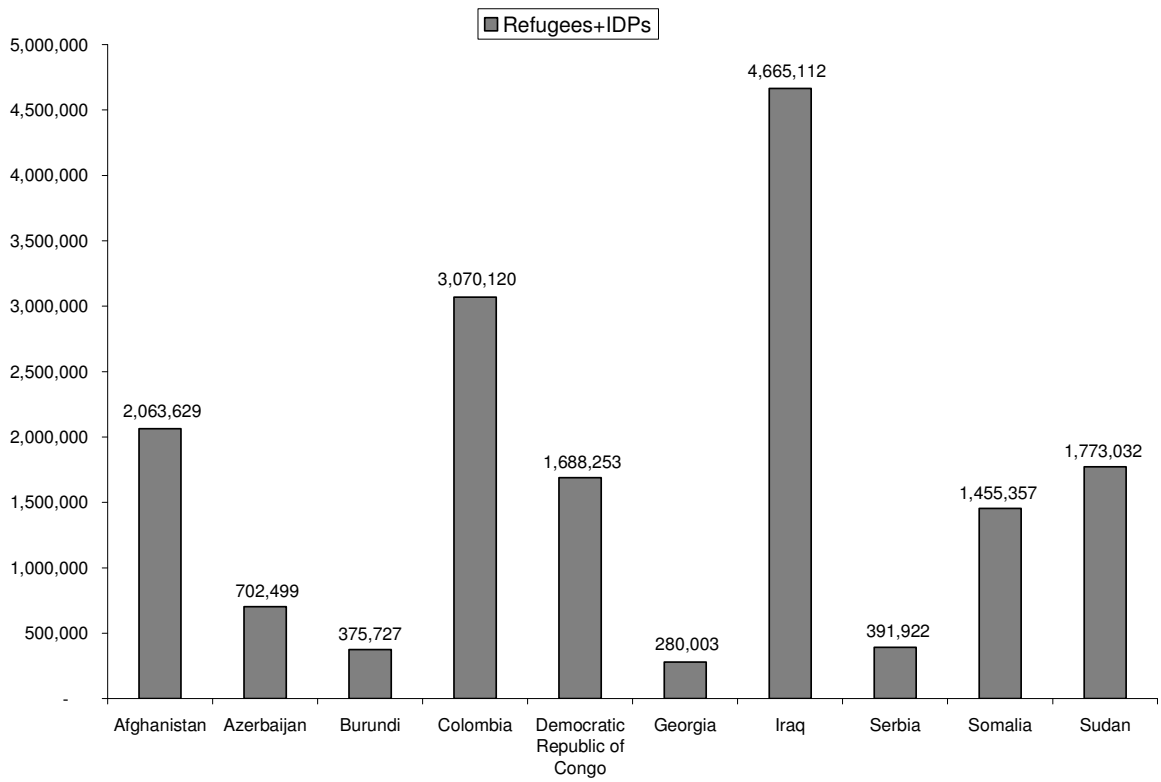
      $Y(t) = K(t)^{\alpha} H(t)^{\beta} [A(t) L(t)]^{1-\alpha-\beta}$

      $gr = a + b_1 \ln (s_k) + b_2 \ln (s_h) - b_3 \ln (n+g+\delta) - b_4 \ln (y_0)$
    - Channels: Human capital, migration, investment, shift factors (such as interrupted supply lines)
    - Neighbors measures Nc – contiguity [0, 1]; Nd – distance [in 50 km increments]
    - Results
        - More spillover in long-run than short-run
        - Smaller reach (less dispersion) in Africa; Africa is more resilient and recovers faster
        - The negative neighborhood effects are stronger than the home-country effect
        - The spatial reach is region-specific and time-period specific

**Refugees**

- One important spillover considered recently: Refugees

- Number of refugees and internally displaced persons (IDPs) for selected countries of origin, provisional data, end of year 2007



Sahelyan/Gleditsch (2006) examine (one of) the mechanism/s and propose that refugees help spread civil war to neighbours

- civil wars are clustered in time and space; this suggests non-independence or knock-on effects
- While states are bound by political borders, its citizens are not; they form "dense networks of social relations that transcend national boundaries"
- Refugees are usually highly clustered or concentrated, exacerbating the ratio in particular regions

But can also be positive effects –immigrants boost labour force in host country

**Conclusions**

- Have considered the effects of conflict and generally acceptance that they are negative
- Can measure:
  - Direct costs
  - Indirect costs
- Methods
  - Accounting
  - Counterfactual
- Findings
  - Conflicts can be devastating in a number of ways
  - Can have high economic costs
  - Can have high spillover effects
  - Major concern for development
  - Arguments remain may be interpreting the role of conflicts wrongly (Cramer)
    - Primitive accumulation
    - Removal fetters on forces production
- But what we measure may not be the full legacy and there always remain the questions:
  - What is peace?
  - When does a conflict end?
- Next consider the issues involved in post conflict reconstruction