

It all started with ABC:  
(Azam, Berthélemy and Calipel,  
*Revue économique*, 1996).

by

Jean-Paul Azam  
(TSE – UT-Capitole)

*Conference in Honor of Jean-Claude Berthélemy, June 13, 2019*

# History (*i*)

- Jean-Claude Berthélemy, Stéphane Calipel and I wrote the first econometric paper on conflict in Sub-Saharan Africa.
- It was presented in 1995 at the XLIV<sup>e</sup> Yearly Congress of the AFSE (*Association française de science économique*) in Paris.
- It was then published in the Conference Proceedings as “Risque politique et croissance en Afrique”, *Revue économique*, 47 (3), 819-829, 1996.

# History (*ii*)

- In that paper, after some theoretical analysis, we estimated a Probit equation to estimate the risk of “rebellion”, using a fairly broad definition, ranging from strikes to civil war proper, and a panel of African Countries.
- In line with the theory presented, we emphasized redistributive policies as a mitigating factor, and in particular public health expenditures as a ratio to GDP, denoted  $S / Y$ , and primary school enrollment, denoted  $Sc1$ .
- The estimated equation was as follows:

# The Pioneering Equation

$$R^* = -38.33 S/Y + 22.96 D/Y - 0.02 Sc1 + 0.03 Sc2 - 0.69 Zf \quad (4)$$

(2.16)            (2.86)            (3.33)            (2.16)            (2.89)

$N = 213$ ,  $Pseudo - R^2 = 0.09$ .

- We observe that health expenditures and primary school enrollment have the predicted negative impact, as does the CFA Franc Zone dummy  $Zf$ .
- As we are now used to, the share of military expenditures in GDP  $D/Y$  has a positive sign, which could have justified some instrumentation.
- Lastly, we find a positive sign for secondary school enrollment, which we are now used to from the “quality of terror” literature. <sup>4</sup>

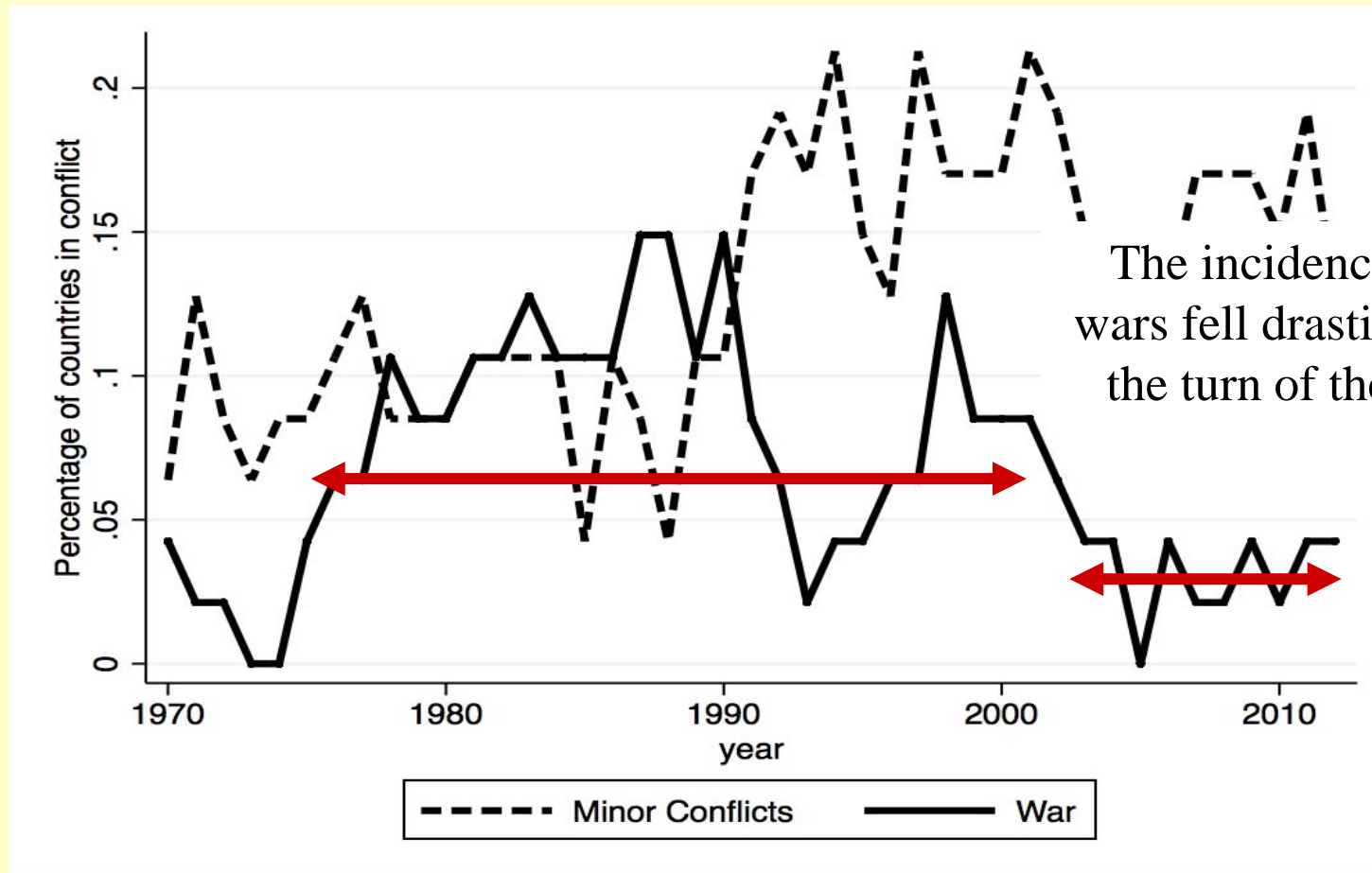
# Our Mistakes

- Beside neglecting the potential endogeneity problem, we committed two mistakes
- We did not follow up with a publication of these results in English.
- I presented a variant of this paper at a conference at CSAE in Oxford in front of Paul Collier and Anke Hoeffler.
- Then, their famous paper published in *Oxford Economic Papers* in 1998, without citing ours, gets more than 3,100 citations, while we only get about 90.
- About a decade ago Anke Hoeffler sent me an e-mail asking me whether it was true that we had published an empirical paper on conflict in Africa before them, as she had just heard at a conference.
- She did not respond when I confirmed.
- Paul Collier never asked that question

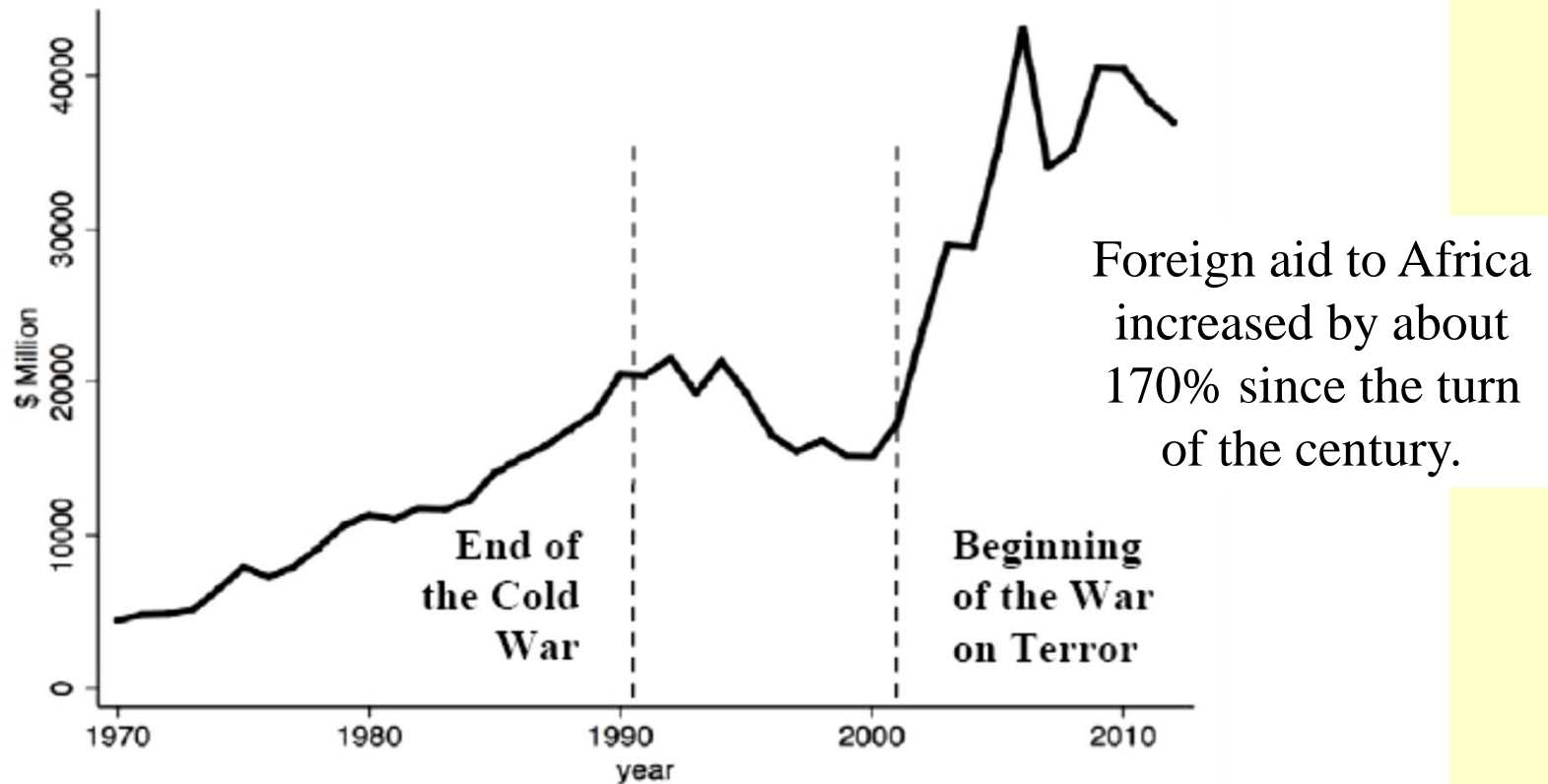
# 23 Years Later

- Azam and Thelen (2019) have a work-in-progress paper that analyzes whether the post-2001 aid boom pacified Sub-Saharan Africa.
- It shows that there was actually an aid boom in the wake of 9/11 and the launch of the war on terror.
- It shows that the allocation of that foreign aid is affected by the incidence of natural disasters in the recipient countries and by the replacement of traditional donors (France and UK) by new players.
- It also shows that this allocation responds endogenously to unobserved changes in the risk of civil war.

### Chart 1: Percentage of Countries in Internal or Internationalized Conflicts



## Chart 2: The New Century Aid Boom



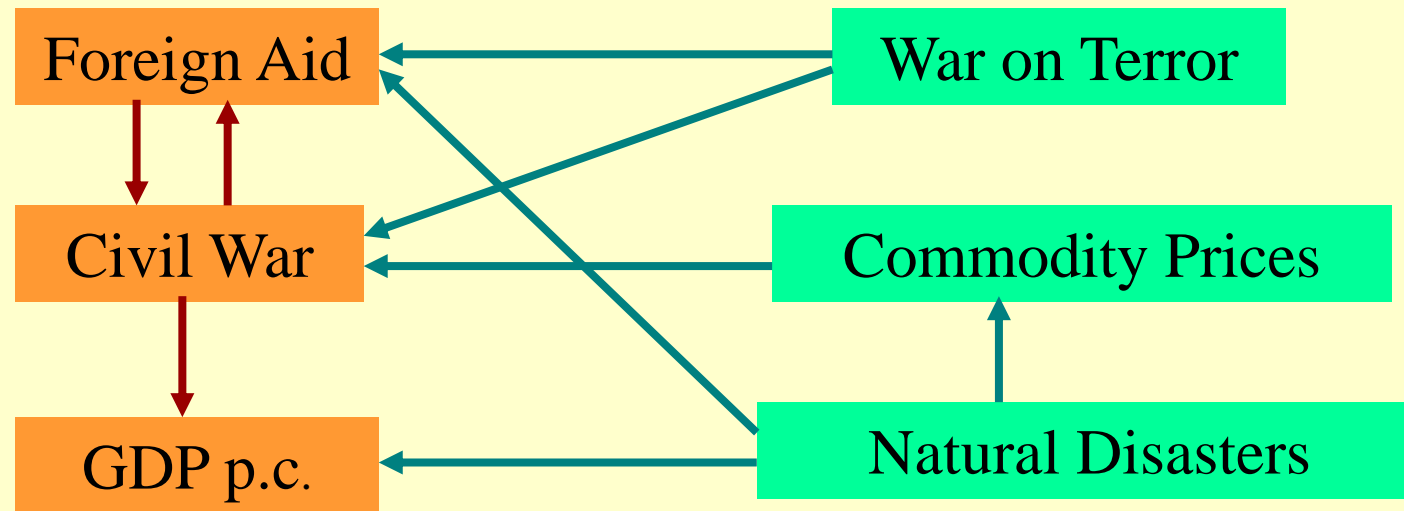
**Data Source:** World Bank. **Note:** Deflated by the Manufactures Unit Value Index of G15 exports to low- and middle-income countries in US \$.



# Causality Flows

Endogenous  
variables

Exogenous  
variables



Further findings to be found in Azam & Galez-Davis (2018)

# Determinants of Civil Wars

|                   | Civil Wars           |                      |
|-------------------|----------------------|----------------------|
|                   | (1)                  | (2)                  |
| Log GDP p.c.      | -0.0831***<br>(0.01) | 0.0965<br>(0.07)     |
| Log Pop.          | -0.2568***<br>(0.06) | -0.2400***<br>(0.07) |
| Log ODA p.c.      | -0.0475***<br>(0.01) | -0.1481***<br>(0.04) |
| Res. Log GDP p.c. |                      | -0.1890***<br>(0.07) |
| Res. Log ODA p.c. |                      | 0.1035**<br>(0.04)   |
| Country FE        | Yes                  | Yes                  |
| Year FE           | Yes                  | Yes                  |
| Nb. of Obs.       | 1761                 | 1761                 |
| Joint Res. T.     | -                    | 9.03***              |
| F. stat           | 2.19***              | 2.22***              |

Reverse causality only

Much larger impact when the reverse impact via aid is purged away

Endogenous aid-response is significant (Hausman test)

# First-Stage Equation

|                                 | Log ODA p.c.<br>(5)        | Log GDP p.c.<br>(6)         |
|---------------------------------|----------------------------|-----------------------------|
| Log Pop.                        | 0.1080<br>(0.24)           | 0.0428<br>(0.14)            |
| Trend * French Colonies         | -0.0265***<br>(0.01)       | 0.0002<br>(0.00)            |
| Trend * UK Colonies             | -0.0081<br>(0.01)          | 0.0135***<br>(0.00)         |
| <b>Nb. of Natural Disasters</b> | <b>0.0407***</b><br>(0.01) | <b>-0.0199***</b><br>(0.01) |
| Country FE                      | Yes                        | Yes                         |
| Year FE                         | Yes                        | Yes                         |
| Nb. Obs.                        | 1761                       | 1761                        |
| F stat                          | 7.5168***                  | 62.6406***                  |

The question arises whether donors respond to natural disasters for philanthropic reasons or because it increases the risk of war via agricultural prices.

Note: OLS with robust standard errors.

Further tests of instruments' validity (Kleibergen-Paap, etc.) can be found in Azam & Thelen, 2019.

# Unbundling Time Effects

|                              | Time Effects from Civil Wars – Column (2) |                     |                     |                     |                     |
|------------------------------|---|---------------------|---------------------|---------------------|---------------------|
|                              | (11)                                      | (12)                | (13)                | (14)                | (15)                |
| <b>Log Gold Price</b>        | 0.159***<br>(0.04)                        | 0.156***<br>(0.02)  |                     | 0.148***<br>(0.04)  | 0.171***<br>(0.05)  |
| <b>Log Crude Oil Price</b>   | -0.003<br>(0.03)                          |                     | 0.095***<br>(0.02)  | -0.008<br>(0.03)    | -0.018<br>(0.04)    |
| <b>Log Cotton Price</b>      | -0.208***<br>(0.05)                       | -0.209***<br>(0.04) | -0.219***<br>(0.06) | -0.234***<br>(0.05) |                     |
| <b>Nb. Natural disasters</b> | 0.001<br>(0.00)                           | 0.001<br>(0.00)     | -0.000<br>(0.00)    |                     | 0.002***<br>(0.00)  |
| <b>Cold War</b>              | -0.046<br>(0.03)                          | -0.047<br>(0.03)    | -0.057<br>(0.04)    | -0.059*<br>(0.03)   | -0.099***<br>(0.03) |
| <b>War on Terror</b>         | -0.100***<br>(0.04)                       | -0.101***<br>(0.03) | -0.093**<br>(0.04)  | -0.081***<br>(0.03) | -0.114**<br>(0.05)  |
| <b>Intercept</b>             | -0.498***<br>(0.17)                       | -0.488***<br>(0.14) | 0.182**<br>(0.09)   | -0.413**<br>(0.16)  | -0.704***<br>(0.20) |
| <b>Nb. Obs.</b>              | 42  | 42                  | 42                  | 42                  | 42                  |
| <b>R2</b>                    | 0.805                                     | 0.805               | 0.719               | 0.795               | 0.685               |
| <b>F stat</b>                | 26.680***                                 | 32.290***           | 27.318***           | 29.839***           | 21.377***           |

Note : OLS with robust standard errors (\* p < 0.1 , \*\* p < 0.05, \*\*\* p < 0.01)

Davidson-McKinnon *J*-test says gold is more robust

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Davidson-McKinnon *J*-test says cotton price is more robust

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The war on terror has a more consistently robust impact than the cold war

# Conclusion

- We did a great job at launching that literature on civil wars in Africa in 1996, which rippled onto other countries as well.
- The basic idea that you must “pay for the peace”, in particular (but not only) via foreign aid, which I explored theoretically in my 1995 paper\*, is still standing after all these years (like Elton John).
- \* “How to Pay for the Peace? A Theoretical Framework with References to African Countries”, *Public Choice*, 83 (1/2), 173-184, 1995.