Top Discriminator Efficiencies (shape comparison)

NTUA

GIANNIS PAPAKRIVOPOULOS

GEORGE BAKAS

Overview

- Efficiencies vs all variables
  - mTTbarParton
  - ptTTbarParton
  - yTTbarParton
  - partonPt
  - partonEta

- Yields for all samples for all variables

- Categories:
  - 1. Both jets are top tagged and b tagged

Cuts:
- Reco:
  - nJets > 1,
  - |jetEta| < 2.4 (both jets)
  - jetPt > 400 GeV (both jets)
  - 120 GeV < jetMassSoftDrop < 220 GeV (both jets)
- Parton:
  - |etaParton| < 2.4 (both partons)
  - ptTopParton > 400 GeV (both partons)
  - mTTbarParton > 1000

Efficiency shapes between Nominal MC and MTT samples

I noticed that the shape between mtt samples and nominal sample is not consistent when invoking a Medium b tagging cut, where in the loose b-tagging category the shapes seem to be consistent
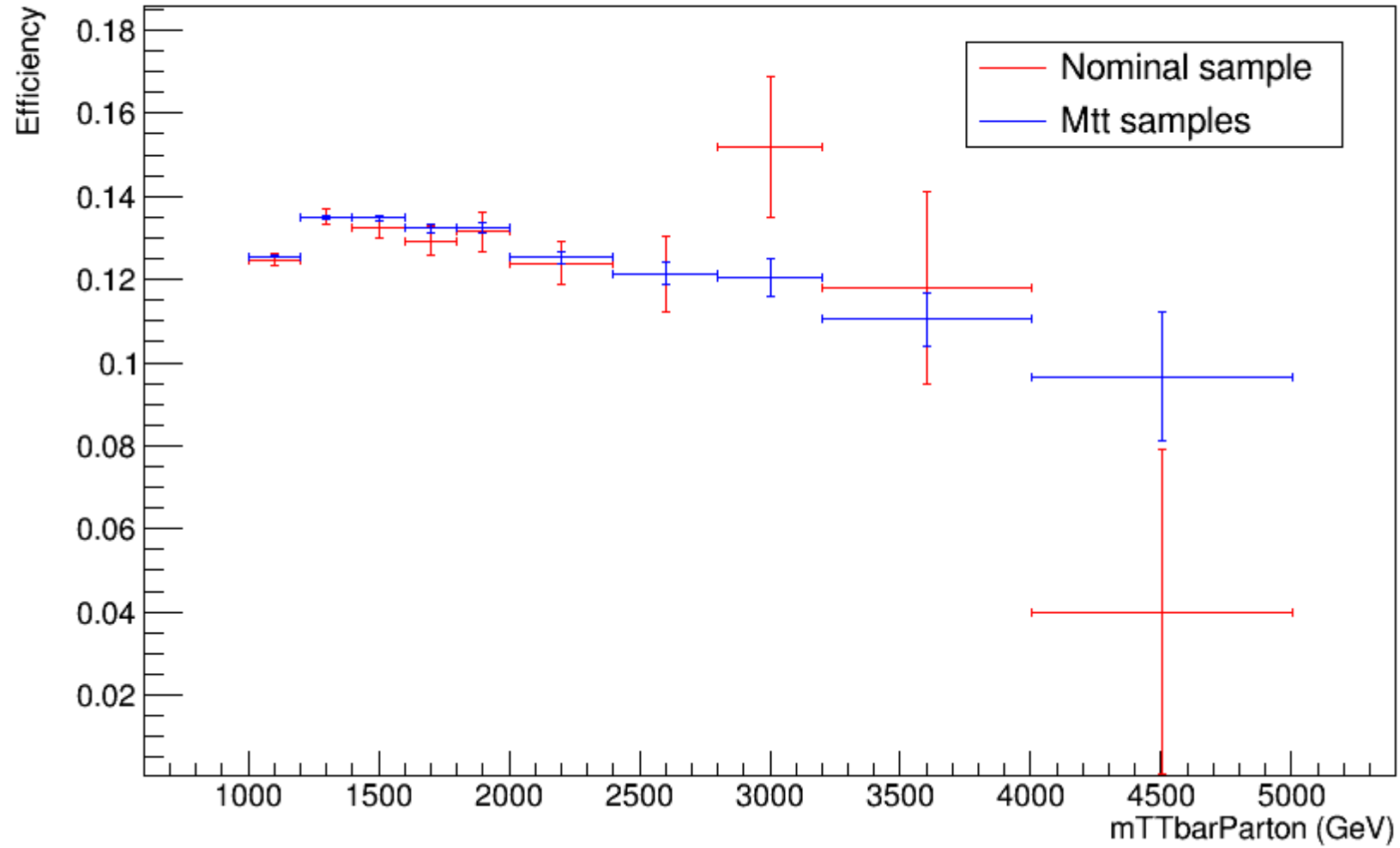
1st part:
- Mva 0.2, Loose btag
- Mva 0.3, Loose btag
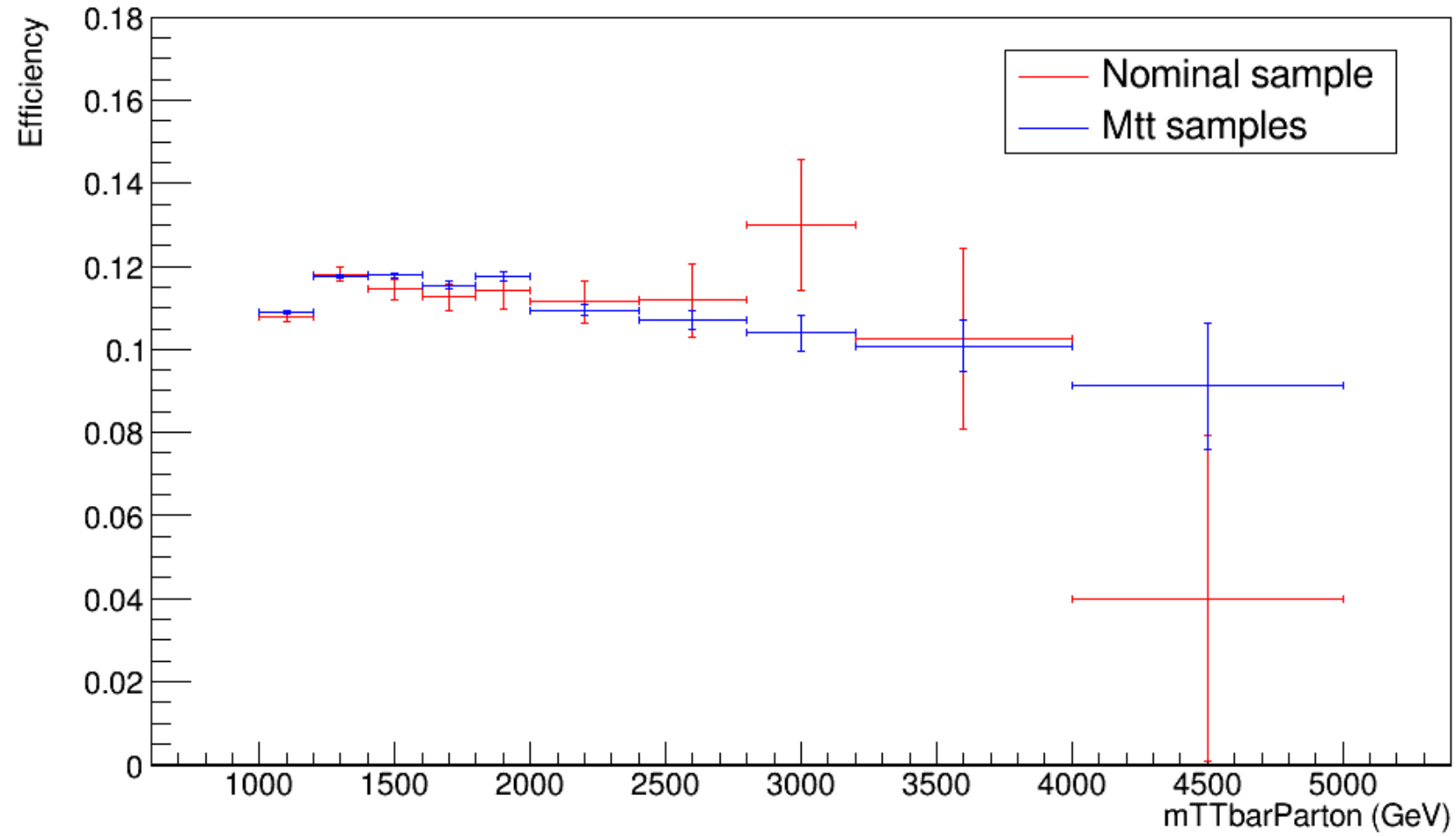- Mva 0.4, Loose btag

2nd part:
- Mva 0.2, Medium btag
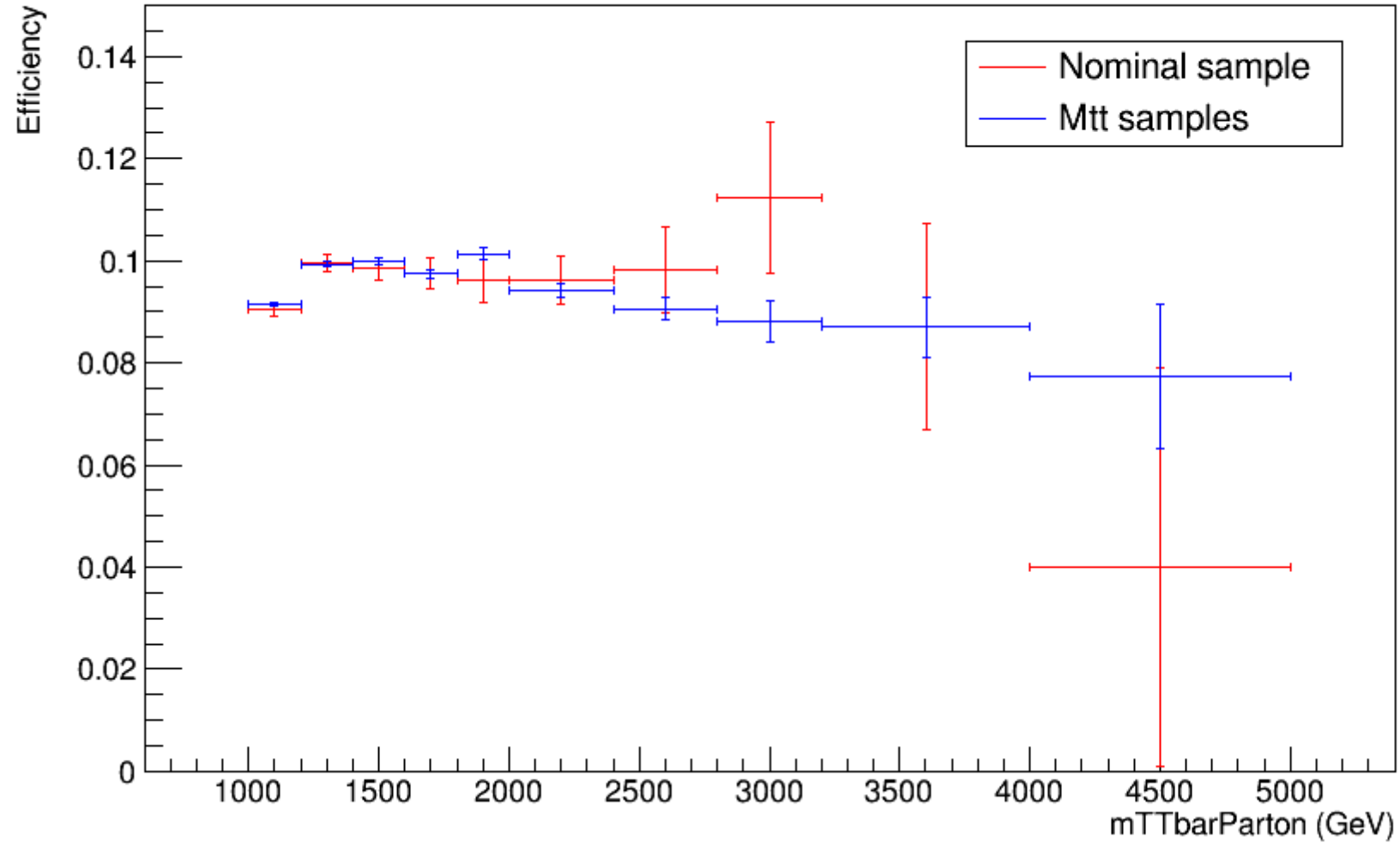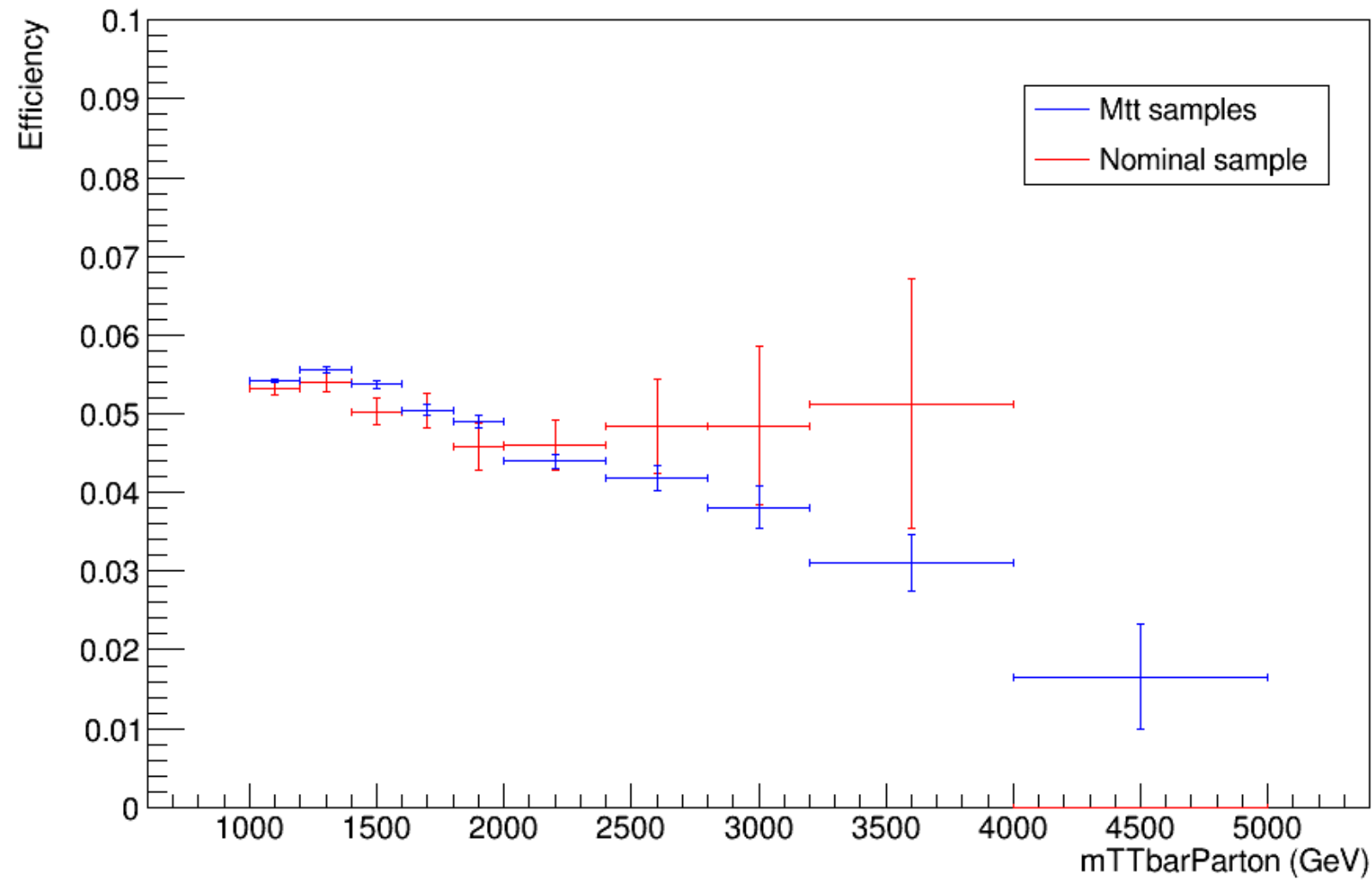- Mva 0.3, Medium btag
- Mva 0.4, Medium btag

Mva Cut > 0.2 and Loose b-tagging
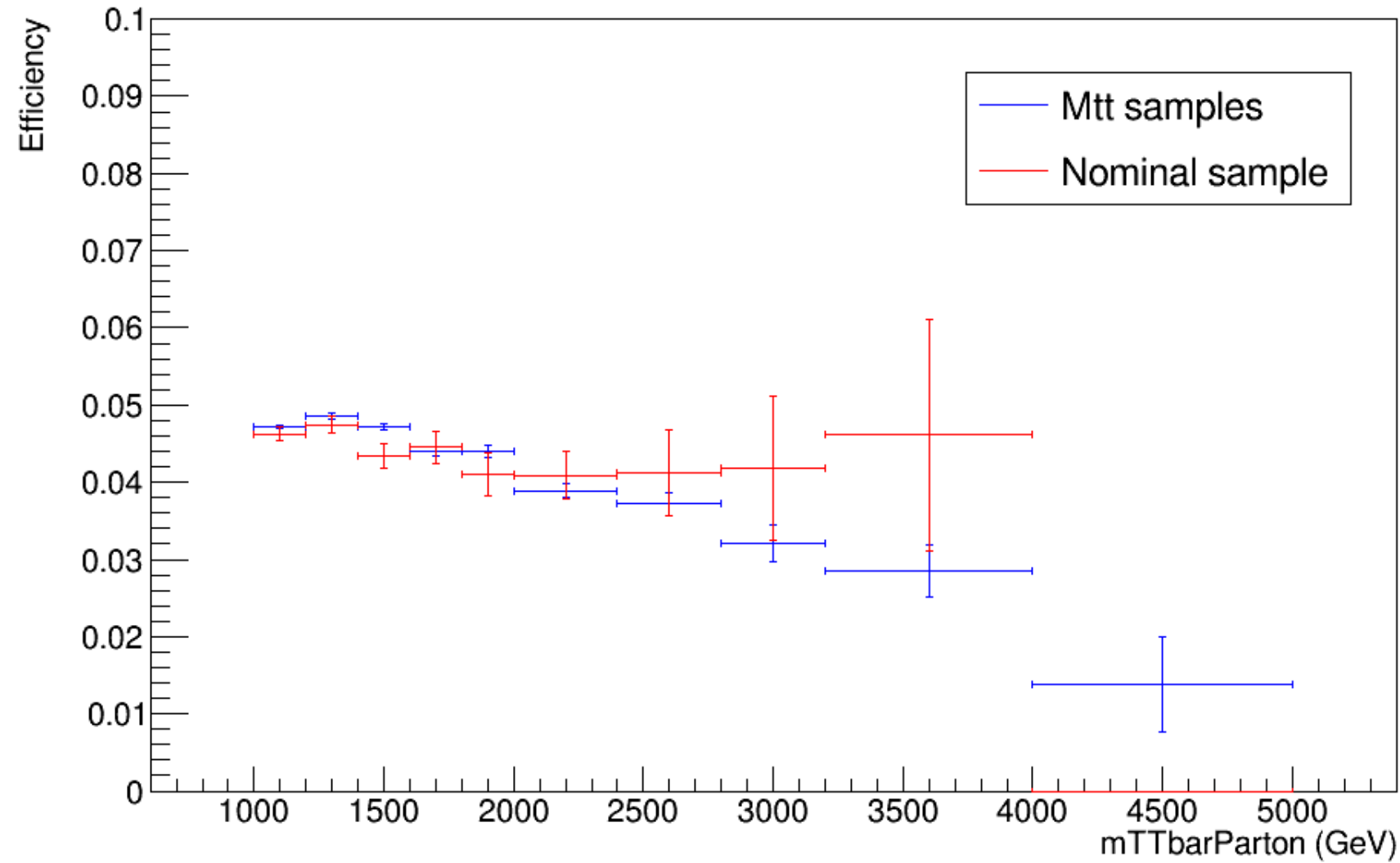

Efficiency vs mJJ for mva > 0.2

Efficiency vs mJJ for mva > 0.3

Efficiency vs mJJ for mva > 0.4

Mva Cut > 0.2 and Medium b-tagging

Efficiency vs mJJ for mva > 0.2

Efficiency vs mJJ for mva > 0.3

Mva Cut > 0.4 and Medium b-tagging

Efficiency vs mJJ for mva > 0.4